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ABSTRACT OF AN

Inaugural Presidential Address

ON THE

PAST WORK OF THE OBSTETRICAL SOCIETY OF LONDON, AND THE OBSTETRIC AND GYNÆCOLOGICAL PROBLEMS STILL AWAITING SOLUTION.

Delivered before the Obstetrical and Gynæcological Section of the Royal Society of Medicine on Oct. 5th, 1911,

BY AMAND ROUTH, M.D. LOND., F.R.C.P. LOND.,

OBSTETRIC PHYSICIAN TO CHARING CROSS HOSPITAL; PRESIDENT OF THE SECTION.

[AFTER thanking the Council and members of the section for the honour of having been chosen their President, Dr. Routh alluded to his having been made a Fellow of the Obstetrical Society of London in 1882 during the Presidency of Dr. Matthews Duncan. Dr. Routh then continued :—]

The Council in that and the succeeding years, 1882 and 1883, contained such honoured names as Arthur Farre, Henry Oldham, Robert Barnes, John Hall Davis, Baptiste Potter, Graily Hewitt, Braxton Hicks, William Priestley, Edward John Tilt, Spencer Wells, Charles J. Cullingworth (then of Manchester), W. S. Playfair, Henry Bennet, J. H. Aveling, Gustavus Murray, George Roper, Knowsley Thornton, and my father, C. H. F. Routh. All these obstetricians have passed away, but their works live after them, and we as their successors continue to hold them in high esteem.

Fortunately, some on the 1882–83 council still live and are equally held in our affection and estimation: John Williams, Henry Gervis, Alban Doran, Clement Godson, Edward Malins of Birmingham and William Stephenson of Aberdeen: with George E. Herman and A. L. Galabin, then the honorary secretaries; and Francis Champneys, then honorary librarian. I am sure that those of that small band who are with us to-night will agree with me in saying that the members of our present amalgamated section are as well fitted as their predecessors to maintain the prestige and good work previously done by the older societies. Indeed, I doubt if at any time in our history we have had such enthusiastic workers in both the pathological and clinical aspects of our specialties as we have had during the last few years.

The Obstetrical Society was founded at an inaugural meeting at the Freemasons' Tavern on Dec. 16th, 1858, nearly 53 years ago. No member of the original Council and only two of the Society's original Fellows, Henry Walter Kiallmark and David Lloyd Roberts, survive. The former, though in poor health, is still keen for all that concerns his profession, and the latter, who performed his first Cæsarean section in 1867, was able to record a successful one only three years ago (Dec. 30th, 1908)—after 40 years' hard operative work. May our salutations go to these two grand veterans of science!

I may refer to three important movements which during the last ten years have proved very advantageous to our interests. One was the formation on the initiative of Dr. Walter Griffith in 1901 of a standing pathological committee to which specimens of doubtful or interesting pathology are referred by the President. The chairmanship of the committee was held by Mr. Alban Doran till 1904 and since then by Dr. Walter Griffith, and these gentlemen with a committee of able and keen pathologists have done excellent work for the section and for science. Another most important event in the history of the Obstetrical Society was the decision made in February, 1902, to admit ladies as Fellows. We were the first important society to do this, and the results have abundantly justified the innovation. The third event was the happy amalgamation of the Obstetrical Society of London and the British Gynæcological Society in 1907, and the formation of the Royal Society of Medicine with the amalgamated societies as one of the sections.

THE PAST WORK OF THE OBSTETRICAL SOCIETY OF LONDON.

Since the inauguration of the Obstetrical Society in 1858 it has been concerned with the advance of obstetric and gynæcological medicine in two main directions: First, by exercising a socio-political influence; and, secondly, by its more normal scientific work.

As regards its socio-political work its greatest success has been the persistent agitation which it has successfully employed in favour of improved obstetric teaching, both of students and midwives, and it has thus been able as a direct result to help to lessen the terrible infantile death-rate and maternal puerperal mortality which then obtained. This has been done (1) by stimulating the teaching and examining bodies to insist upon the better education of medical students in obstetrics; (2) by constantly urging the Government of the day to educate and register midwives; and (3) by actually providing for the education and examination of midwives till Government itself took the matter in hand. Many of our younger members hardly realise how great an influence the Obstetrical Society has had in the improvement in obstetric training. I propose, therefore, for a few minutes to give a short review of this part of the work of the Obstetrical Society.

Defective Obstetric Training.

In 1860[1] Dr. Edward Rigby, the first President, stated that the Council had presented a most important memorial to the General Medical Council urging upon them the imperative importance of improving obstetric education. At the London University students had then only to attend six labours, and attendance at lectures on midwifery was not compulsory. At the Royal College of Physicians of London there was no examination in midwifery, no obstetric expert being then on the Examining Board. At the Royal College of Surgeons of England candidates had to attend three months' lectures on midwifery, but need not have personally attended any confinements. The Obstetrical Society demanded that the standard of education and examination on midwifery should be as high as that which obtained in medicine and surgery. The immediate result of this memorial was that in the following year the Royal College of Physicians of London arranged to examine and grant a licence in medicine and midwifery, and attendance on a course of midwifery and on clinical diseases of women was made compulsory.

Another result was the institution of a new office in our educational hospitals—namely, that of "obstetric physician," whose duties were at first entirely those of an accoucheur, surgery being practically excluded.

In 1863 the President, Dr. Tyler Smith, urged that obstetric physicians should be allowed to perform the operation of ovariotomy, till then mainly in the hands of surgeons. It was, indeed, many years before obstetric physicians were treated with the respect they deserved. In 1879 we find the President of the Society, Dr. Playfair, deploring this, and alluding especially to the fact that in such a representative body as the General Medical Council there was no representative of obstetrics. As many Past-Presidents had done, he deplored the inadequate education in obstetrics and gynæcology as then required by the examining bodies. He urged that it was the duty of the society to agitate upon the question and not to rest satisfied until midwifery was placed on an equality with medicine and surgery. One of the most forcible inaugural addresses was given by Matthews Duncan when our President in 1881. He alluded especially to the efforts of Dr. Playfair in England and of Dr. Macnaughton Jones, our own immediate Past-President, in Ireland, towards the improvement of teaching in midwifery and gynæcology, and, Dr. Matthews Duncan added, with, I think, a marvellous prevision, "that without an extension of the curriculum to five years, he thought that such an improvement was impracticable." As the first step to progress being made, he again urged that an obstetric physician should be placed on the General Medical Council, and he stated that the Council of the Obstetrical Society had again memorialised the Government on the subject. We may congratulate ourselves that very soon after that deputation the Government (April 20th, 1883) realised the necessity of acceding to our Council's request, and that the first representative on the General Medical Council should have been so able an

[1] Transactions of the Obstetrical Society of London, vol. ii., p. 3.

obstetrician and so expert an educationalist as Matthews Duncan himself.

In 1901 Sir John Williams was appointed Crown representative, and on his retirement this year Sir Francis Champneys was appointed by the Crown.

As a result of obstetric experts being now on the General Medical Council and on all examining boards great improvement has taken place in the teaching of clinical midwifery, especially as regards the attendance of the medical student in lying-in wards. This course was strongly advocated by Dr. W. R. Dakin in his presidential address in 1905, which was given at the psychological moment, for it more or less voiced the opinion of everyone concerned, and the teaching of practical midwifery has now been put on a sounder basis. When all the teaching hospitals can either have their own lying-in wards, with efficient resident teachers, or can utilise adjacent adequately staffed lying-in hospitals, all students will get efficient training. The advantage, however, to the student, in view of his future practice, of attending outdoor maternity cases after he has acquired the knowledge of aseptic midwifery in lying-in wards is also obvious, and should not be allowed to be entirely superseded.

Infantile Mortality.

From the first the Obstetrical Society did what it could to lessen infantile mortality, especially during the "puerperal month," and in 1875 issued rules for the "management of infants," which might be advantageously reissued now.

Much has been done by Sir Francis Champneys and others to save the lives of children born asphyxiated, and Dr. Herbert Spencer has demonstrated that many stillborn or newly-born children die from cerebral and other hæmorrhages. Papers, too, have been read on gynæcological troubles in young children, by Dr. Drummond Robinson on Vulvar Discharges in Infants, by Mr. Sydney Stephenson on Ophthalmia Neonatorum, and on Grape-like Sarcoma by Mr. Henry Curtis and Dr. Herbert Williamson. We have, however, mainly concerned ourselves with fœtal monstrosities, hermaphroditism, and other developmental abnormalities, rather than with the causes, pathology, and treatment of the diseases of the child before and after birth. We know little more of the causes of intra-uterine death of the fœtus than we did when Sir W. Priestley, a past-President of the Obstetrical Society, read his Lumleian lectures on that subject in 1887 at the Royal College of Physicians of London.

Mortality both in utero and soon after birth is still far larger than it should be. Sir W. Priestley calculated that in 1887 in London alone 9000 *abortions* occurred annually due to preventable causes. There is no reason to think that abortions are now less numerous or relatively less preventable than they were. The number of *stillbirths* could then only be guessed at, but we can now, thanks to the Registrar-General's statistics, estimate their frequency with fair accuracy. In 1910, 2312 stillbirths were notified in London, representing 2 2 per cent. of the total births. If this proportion holds good for the whole of England and Wales, the stillbirths in 1910 were 19,736. Our knowledge of practical midwifery tells us that many of these stillbirths occur during delivery, and are preventable. At that date, 1887, the infantile death-rate in England and Wales during the first year of life was 145 per 1000 births. In 1909 the rate had been reduced to 109 per 1000 births, a saving of 36 infants per 1000 births, or a saving of 33,922 infants in 1909 in England and Wales and of 5939 infants in London alone. In 1910 the death-rate was 106 per 1000 births. In order to emphasise the special import of this mortality to our section I append Table I. in which it is shown by the Registrar-General that out of 99,430 infants who died during their first year in England and Wales in 1909, 24,686 infants, about *one-fourth, died during the first three months of life from causes connected with birth.*

TABLE I.—*Infantile Deaths in England and Wales in 1909 during the First Three Months of Life from Causes connected with Birth.*

—	Males.	Females.	Total.
Premature births	10,108	7,899	18,007
Congenital hydrocephalus... ...	41	31	72
Other congenital defects	2,072	1,661	3,733
Injury at birth	564	390	954
Atelectasis	874	631	1,505
Want of breast milk	248	167	415
Totals	13,907	10,779	24,686

Another "cause connected with birth" of both infantile death and local inflammatory processes in new-born infants is "obstetrical infection" at birth. Such infection must be distinguished from congenital infection of the infant, conveyed through the mother, such as syphilis, small-pox, measles, malaria, &c. "Obstetrical infection" of the infant due, for instance, to the liquor amnii being infected before birth, in some cases even when the amniotic sac is intact, is as definite an infection as the ophthalmia of vaginal gonococcal origin. It is not yet well recognised in this country that such infection may be the cause of serious or fatal sepsis of the mouth or nose, which by penetration into the lungs or alimentary canal may cause bronchitis or bronchopneumonia, vomiting, gastro-intestinal disturbances, jaundice, &c.

The following table (Table II.), taken from the statistics of the Registrar-General for 1909, shows that *from all causes*, 11 children out of 1000 births die in the first 24 hours of life, 30 children die in the first fortnight, and about 40 in the first month, 109 dying in the first year.

The accoucheur is responsible for the new-born child during at all events the first fortnight of life, and in that period nearly one-third of those children who do not survive their first year lose their lives.

TABLE II.—*Infantile Deaths to 1000 Births at Different Ages from All Causes in 1909 in England and Wales.*

Die during the first 24 hours	11·5	per 1000.
,, ,, next six days	13·1	,,
,, ,, second week	5·7	,,
,, ,, first fortnight	30·3	,,
,, ,, first month	39·75	,,
,, ,, the first year of life	108 73	,,

Can we not, as the Obstetrical Section of this great society, do something more to lessen this infantile mortality by encouraging the education of women in the rational management of themselves and their children during the puerperium? As showing what can be done by definite special effort to encourage lactation and discourage artificial feeding of infants, I may quote results in St. Pancras and Stepney. In St. Pancras Dr. J. F. J. Sykes and the municipal health authorities began their educational experiment in 1904, when the infantile death-rate was 151 per 1000 births. Last year it was 107 per 1000. In Stepney, under similar circumstances, it dropped from 138 to 109 per 1000 births. Unfortunately a concrete example shows the converse of this progress. We have recently had a combination of drought and railway strikes which shows in a most graphic way how infants who are not breast-fed die wholesale if cow's milk be deteriorated by bacteria-dust, or if, owing to milk from the suburbs failing to be delivered in the large cities, infants have to be fed on other articles of diet. (See Table III.)

TABLE III.—*Deaths of Children under One Year to 1000 Births in London and Liverpool (1911).*

London.				Liverpool.			
Week ending—	Births.	Deaths under 1 year of age.	To 1000 births.	Week ending—	Births.	Deaths under 1 year of age.	To 1000 births.
July 8th	2223	159	72	July 8th	426	62	146
,, 15th	2242	150	67	,, 15th	448	54	121
,, 22nd	2175	173	80	,, 22nd	464	73	157
,, 29th	2133	305	143	,, 29th	383	75	196
Aug. 5th	2295	461	201	Aug. 5th	411	107	260
,, 12th	1880	636	338	,, 12th	399	144	361
,, 19th	2311	705	305	,, 19th	371	165	445
,, 26th	2223	712	320	,, 26th	465	146	314
Sept. 2nd	2200	622	283	Sept. 2nd	461	141	306
,, 9th	2104	555	264	,, 9th	438	133	304
,, 16th	1997	442	221	,, 16th	391	107	281

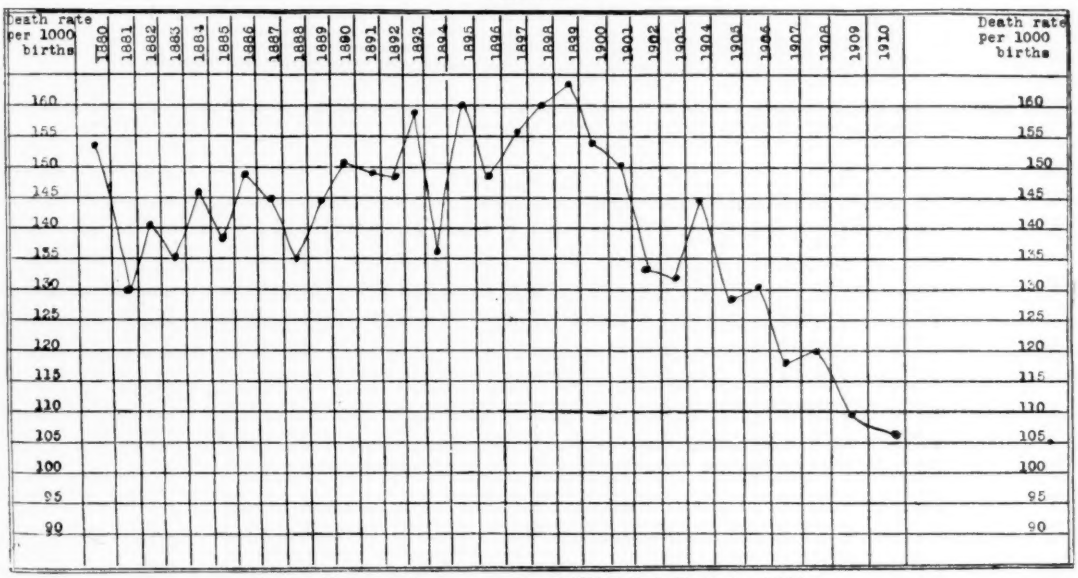
The table shows that in London in the week ending July 15th, 1911, the deaths of infants under one year of age was 150—67 per 1000 births; in the weeks ending August 12th and 19th, when the great heat and the railway strike were in action, the infantile deaths rose to 636 and 705, or 338 and 305 per 1000 births. In Liverpool, where the railway strike was more general and the absence of milk, or its deterioration from delay, was more universal, the infantile deaths on the same dates rose from 54 to 144 and 165, and the death-rate per 1000 births from 121 to 361 and 445. I suppose no one will dispute the fact that if these infants had been breast-fed this terrible mortality would not have occurred. I quote one of the rules drawn up by the Obstetrical Society in 1873 which would be particularly useful in these days, when mothers so often avoid the duty of lactation for selfish reasons, or prolong the function hoping to postpone another pregnancy. The rule says:—

> Nature provides breast milk as the proper food for an infant, and suckling is by far the best way of feeding it. Provided the mother has plenty of milk and is in good health, an infant requires and should have no other food but the breast milk until about the sixth month.

What a blessing to the new-born would ensue if advisory legislation or custom could make such a practice the rule rather than the exception. Cannot the united voice of this section as well as the advice of its individual members do something to stem the tide of non-lactation, which must act to the physical disadvantage of both mother and child, and which at the same time tends to annihilate the intimate mental, moral, and social ties which should bind mother and child together at the beginning of an infant's life?

I append Diagram 1, showing the steady fall in the infantile death-rate in England and Wales during the last 30 years.

DIAGRAM 1.



Deaths of infants under one year of age to 1000 births in England and Wales.

It will be observed that the infantile death-rate between 1880 and 1900 averaged about 145 per 1000 births, and actually got worse and worse till it reached 163 per 1000 in 1899. Since then it has steadily improved, and last year (1910) it was only 106 per 1000, a saving of life as compared with 1899 of 57 infants out of every 1000 born. I believe this result to be largely due to the compulsory education of midwives which the examinations by the Obstetrical Society of London and the Central Midwives Board have necessitated, for about 21,000 midwives have been examined and passed by these two bodies, and it is stated that half the total births are attended by midwives.

Puerperal Fever.

The prevention of "puerperal fever" has been a burning question since the foundation of the Obstetrical Society, and in 1872 a strong standing committee was appointed "for the collection of observations on temperature during pregnancy, parturition, and the puerperal state." By this and various other methods the Obstetrical Society has constantly and consistently endeavoured to save the lives of parturient women, not only by its scientific work, but by endeavouring to get the importance of the science and art of midwifery recognised by medical opinion and by Government and the country generally.

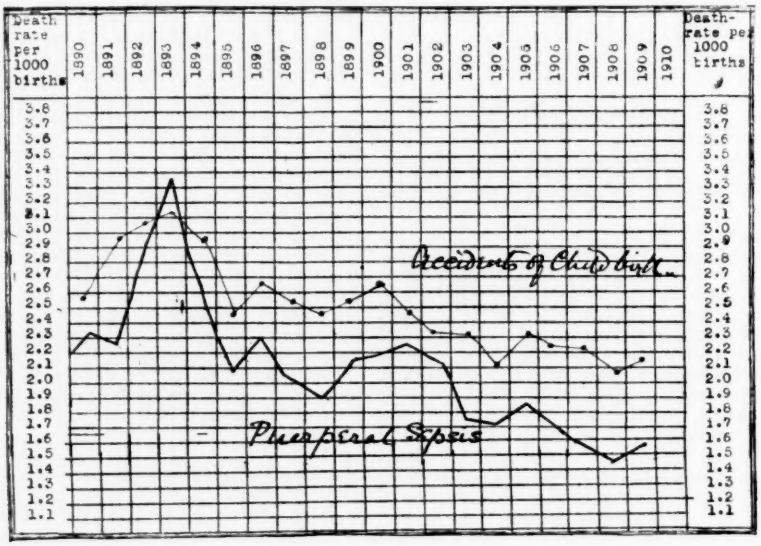
We can now see that a definite improvement has within the last few years taken place in the death-rate due to septicæmia. Undoubtedly the modern conduct of maternity cases in lying-in institutions has led not only to an enormous diminution of the mortality and morbidity due to sepsis in those institutions, but their success has shown what can be done also in general practice. In 1865–1875 the British Lying-in Hospital had a death-rate of 19·4 per 1000; City of London Lying-in Hospital, 14·3 per 1000; and Queen Charlotte's Hospital, 22·3 per 1000. In the Rotunda, Dublin, the death-rate between 1811 and 1875 varied from 13·1 to 32·7 per 1000. The mortality was, however, not always so great, for in some decades even 100 years ago the death-rate in lying-in hospitals was remarkably low from unexplained causes; thus, in the British Lying-in Hospital between 1790 and 1800 the death-rate in 6677 deliveries was only 3·2 per 1000, and at the same date the mortality at the City of London Lying-in Hospital was only 5·7 per 1000. Explanations of these good years in puerperal fever statistics are difficult, but the invariable rapid return of bad years prior to the routine use of antiseptics showed that when septicæmia once developed in a lying-in hospital none of the methods then in use served to check its spread, and as a rule the lying-in hospital had for a time to be entirely closed and redecorated. As late as 1889 Dr. Galabin in his inaugural address as President, when speaking of antiseptics in midwifery, said: "The hope may now be entertained that modern antiseptic methods will suffice to render healthy even a lying-in ward in a general hospital, though it is premature to speak positively on the subject until the experiment has been tried." The experiment has now been tried and has proved completely successful, and lying-in wards in our London and provincial hospitals give us no anxiety.

The question as to how far antiseptic and aseptic midwifery has reduced puerperal mortality and morbidity in general practice is more difficult to decide. Dr. Galabin gave the mortality of childbirth between 1847 and 1885 as 4·82 per 1000 births, and 4·45 between 1875 and 1885, more than half of these deaths being due to puerperal fever. Dr. Cullingworth showed in his inaugural address that the death-rate of puerperal septicæmia in 1896 was not falling

but actually rising. The death-rate in England and Wales from accident and septicæmia in the five years ending 1895 was 5·4 per 1000 births; from septicæmia alone, 2·5 per 1000. When all qualified medical practitioners and midwives practising midwifery have been trained in modern midwifery methods sepsis should be banished.

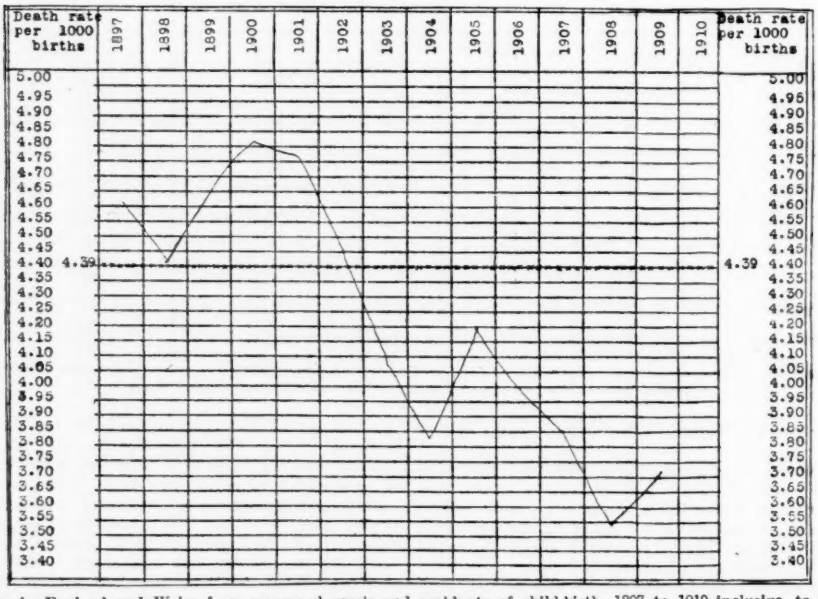
In Diagrams 2 and 3 it will be seen that not only is the proportion of deaths in England and Wales from "puerperal septic diseases" becoming reduced in comparison with the deaths due to other "accidents of childbirth," but that the actual death-rate from puerperal septicæmia is steadily becoming reduced; whilst, curiously and suggestively, the death-rate from other "accidents of childbirth" is stationary or only slightly diminishing. Does this mean that operative midwifery and measures taken to avert sepsis have not tended to lessen deaths due to other "accidents of childbirth"? It is only right that we should consider this possibility, though time does not now permit me to do so, for it would not be to the credit of the profession if it succeeded in its effort to annihilate sepsis, only to add to the maternal risks in other directions by anything like unnecessary interference with the natural process of parturition. In London deaths from "accidents of childbirth" show a much greater relative decline than in England and Wales. Members of the section will agree with me that Diagrams 2 and 3 are, on the whole, very satisfactory evidence of success achieved.

DIAGRAM 2.



Death-rates from puerperal sepsis and from accidents of child-birth respectively in England and Wales, 1890 to 1910, per 1000 births. Dotted line indicates death-rate from accidents of child-birth. Thick line indicates death-rate from puerperal sepsis.

DIAGRAM 3.



Death-rates in England and Wales from puerperal sepsis and accidents of child-birth, 1897 to 1910 inclusive, to 1000 births. The dotted line shows the average death-rate (4·39) for the ten years 1897–1906.

Notification of Cases of Puerperal Septicæmia.

Complete or reliable information as regards the number of cases of puerperal septicæmia in England and Wales has been very difficult to obtain till now, as notification has not been enforced. In future there will be no such difficulty, for a General Order was issued by the Local Government Board on Dec. 13th, 1910, requiring *every* medical officer of health to send in weekly returns of notified infectious diseases, including puerperal fever. Returns are accordingly now received every week from the majority of the 1800 sanitary districts in England and Wales. During the first six months of 1911, 1013 cases of puerperal fever were notified in England and Wales; and 145 cases in London, where there were 68 deaths, a death-rate of 46·9 per cent. of the cases notified.

Other Medico-Political Suggestions.

Other medico-political suggestions have been made from time to time by presidents of the Obstetrical Society. I will only mention two.

Dr. Matthews Duncan in 1881[2] urged that women about to be married should receive legislative protection from syphilis—that, in fact, it should be criminal for a man to marry who had recent or active syphilis. He also wished it to be considered criminal for a woman who has syphilitic sores on her pudenda to fail to warn her accoucheur of the circumstance. He instanced an accoucheur who only survived 18 months after attendance upon such a case.

Dr. Herbert Spencer in 1907[3] suggested that in order to ensure cases of uterine cancer coming earlier under treatment two definite steps should be taken: (1) to diffuse the knowledge of the symptoms of the disease among women, as has been done with good results in Germany; and (2) to urge upon general practitioners that it is a neglect of duty to treat hæmorrhage or discharge which may be due to uterine cancer without making or advising a local examination. To emphasise the importance of such a step I may state that in the years 1901–1909 152,737 women over 25 years of age died from cancer, and of these 35,516 died from cancer of the uterus. This represents 23·2 per cent. of the total deaths from cancer, and Dr. T. W. Eden in his "Manual of Gynæcology" says that 96 per cent. of these are cervical cancer, 4 per cent. cancer of the body of the uterus.

THE FUTURE OF OBSTETRICS AND GYNÆCOLOGY.

I.—*Obstetrics.*

I am becoming more and more convinced that we shall get very little further in our knowledge of the physiology of menstruation, labour, and lactation, and of the causation of the toxic diseases of pregnancy and the puerperium, unless we call into our aid not only the bacteriologist but also the physiological chemist.

Menstruation.—At the very beginning of our study of obstetrics and gynæcology the subject of menstruation has necessarily to be considered. We know very little either of the causation or of the significance and utility of menstruation. Heape[4] has proved that the pro-œstrum stage of the "rut" in animals is homologous with menstruation, and that ovulation is not the controlling factor, and as a result the nerve and ovulation theories as to its cause are now largely surrendered in favour of the theory that its cyclical occurrence is due to a recurring bio-chemical change in the blood. One of the elements in this change appears to be an excess of the salts of calcium, a fact put forward in our Section by Dr. Blair Bell[5] who considers that the uterus of woman is homologous with the calcium chamber of birds and that the calcium metabolism is largely influenced by the internal secretion of the ovary and of the other ductless glands. The whole subject is still obscure and awaits solution at the hands of physiological chemists.

Labour and lactation.—Both labour and lactation can proceed normally without spinal nerve influences, as I showed in a case of traumatic paraplegia. What is the chemical substance which is thrown into the blood stream by uterine or placental metabolism at, or soon after, parturition, and which causes the mammary glands to secrete milk and the liver to secrete glucose to supply that milk with sugar? Is this chemical substance identical with that which starts the onset of labour.

Lutein tissue.—What, for instance, is the influence exerted by lutein tissue? Dr. Cuthbert Lockyer and others have done much to answer this question from the clinical and pathological standpoint. What is its action upon the health of the individual? What is the influence which its excess or diminution has upon the dates and occurrences of such functions as menstruation, ovulation, and the menopause; and on fertilisation, the implantation of the ovum, labour, and lactation? Is lutein tissue one of the essential bio-chemical products, one at all events of the ovarian internal secretions, which by getting into the blood exerts a controlling or exciting functional influence until recently unsuspected?

Physiological chemistry is an extremely difficult science, and none but experts can tackle it. Those interested in the subject should read Dr. A. E. Garrod's paper on "Where Chemistry and Medicine Meet."[6] So difficult is it that it seems to me that until we have chairs and laboratories specially instituted for the study of these branches of biological chemistry in our teaching schools we shall get very little beyond our present scanty and clouded knowledge, not only of the cyclical occurrence of the functions named, but also of the toxæmias of pregnancy and the puerperium. We know nothing of the chemical constitution of the toxins producing hyperemesis gravidarum, albuminuria, eclampsia, the diabetes of pregnancy apart from ordinary glycosuria, the chorea of pregnancy, acute yellow atrophy of the liver, and puerperal insanity. Are these toxins produced from the ovarian or the placental metabolism? What can be the explanation that injection of solution of iodide of potassium into the breasts or amputation of the breasts, as performed by Sellheim, can cure eclampsia?[7]

Amputation seems a brutal operation, yet is it possible that there is a theoretical justification for it, and that the internal secretion of the mammary glands is liable to change and become toxic and cause eclampsia. Dr. Herbert Spencer kindly referred me to his brother, Mr. Trevor Spencer, M.R.C.V.S., of Kettering, who tells me he has seen about 1000 cases of "drop" or "parturient apoplexy" in cows, due, it is supposed, to a toxin developed in the mammary gland. The disease comes on, as a rule, on the first or second day after labour, and used to be almost invariably fatal, but now 98 per cent. of cases are cured within a few hours after an antiseptic solution, followed by air or oxygen, has been freely injected into each quarter of the udder.

We know absolutely nothing of any specific means of treating puerperal fever, although we believe that we know the various specific germs which produce it. Yet how is it that polyvalent serum prepared from streptococci obtained from many cases of puerperal septicæmia is so very seldom successful, and, indeed, serum-therapy seems only really successful, even when a streptococcal infection seems certain, in cases where pus has already formed in the pelvic cellular or perimetric tissue, and to some extent, therefore, localised the infection. As I suggested in my Cæsarean Section monograph,[8] can no way be found by which the infecting germ can be discovered at the onset of infection by differential staining, &c., without waiting for a culture diagnosis? Can no more rapid way than is now possible be then found by which a serum or a vaccine can be made from the patient's own brand of streptococcus or other germ thus found, and so, perhaps, save her life? Or is there some other fact of which we are now ignorant to explain our failure to cure these septic cases by a specific antitoxin? I believe that for some days after infection puerperal septicæmia most frequently remains only a local infection in the uterus and its veins. At present, therefore, I personally rely with much greater confidence upon clearing out the uterus and swabbing with strong iodine solution, and giving large doses of liquor ferri perchloridi to increase the general resistance, rather than upon any attempt to combat the infection itself.

The failure of bacteriological treatment in puerperal[9] septicæmia is all the more disappointing when we see how similar treatment answers for allied conditions. For instance,

[2] Transactions of the Obstetrical and Gynæcological Society of London, vol. xxiii., p. 75.
[3] Ibid., vol. xlix., p. 129.
[4] The Sexual Season of Animals, &c., Quarterly Journal of the Microscopical Society, 1900, vol. xliv.
[5] Proceedings of the Royal Society of Medicine (Obstetrical Section), vol. i., p. 291.
[6] Brit. Med. Jour., June 17th, 1911, p. 1418.
[7] Idem, p. 1444.
[8] Journal of Obstetrics and Gynæcology of the British Empire, vol. xix., 1911, pp. 1 and 236, and Proceedings of the Royal Society of Medicine (Obstetrical Section), vol. iv., 1911, p. 197.
[9] See THE LANCET, August 19th, 1911, p. 531.

we know the good results of vaccine therapy in cases of chronic gonorrhœal cystitis, endometritis, and salpingitis, and I have seen two cases where vaccine prepared from the patient's own gonococci was used during subsequent attacks of acute salpingitis, the attack in each case subsiding at once, contrary to the opinion generally held.

After careful work Dr. A. W. W. Lea of Manchester read a paper before this section,[10] and is of opinion that organisms indistinguishable from pyogenic streptococci, together with diplococci and bacterium coli, are not infrequently present in the vagina of pregnant women. The fact is, however, that we are not yet quite sure of the significance of the germs thus found in the vagina at the onset of labour, whether we believe in Döderlein's theory or not. If we were really sure that the streptococci, staphylococci, bacillus coli, &c., present in the vagina of a healthy woman during labour were liable to infect the woman, it would be our duty to disinfect and sterilise the vagina in every case before labour precisely as we do before vaginal operations. Experience appears to show that this is not necessary, and it seems more than probable that the patient is immune from the germs which are habitually present in her vagina, immune in this case apparently by means of Döderlein's bacillus, and that she only becomes infected when germs are introduced from without, germs for which there is not in her own system an anti-body to resist. A man bitten by the teeth of a cat or dog may get a fatal sepsis, yet that cat or dog can freely and advantageously lick its own wounds.

It is known that the serum obtained from a pregnant woman has different qualities from that of other women, but very little is known of the actual and essential differences except as regards the effect upon animals of inoculations of the serum. Physiological chemists have not yet discovered the chemical constitution or molecular structure of the substances concerned. It is said to be possible to diagnose the existence of pregnancy by a serum test founded upon the power of the serum to hinder the action of proteolytic ferments such as trypsin.[11] It is further shown by Krause and Graff[12] of Vienna that during the first eight months of pregnancy placental serum has a remarkable power of destroying cancer cells and of resisting cancer invasion by manufacturing an anti-cancerous substance. Is this a partial explanation of the rarity of the combination of cancer and pregnancy, and perhaps a partial explanation of the improvement which pregnancy usually exerts upon the spread of tuberculosis, and the almost inevitable downward progress due to the disease after labour? In this connexion I may allude to the fact that the presence of pregnancy prevents perfect reliance being placed upon blood-tests in some cases. Thus, according to Stern,[13] local tuberculin reactions are distinctly diminished during pregnancy. In healthy non-pregnant women 65 per cent. gave positive reaction to the cutaneous and 14·5 per cent. to the conjunctival test, whereas in the seventh, eighth, and ninth months of pregnancy the cutaneous reaction diminished to 36, 30, and 28 per cent., and the conjunctival reaction results were consistently negative.

There is reason to believe that pregnant women[14] have some sort of immunity from scarlatina, and puerperal women a special liability to it. Olshausen[15] could only find instances of seven cases of scarlatina during pregnancy, as compared with 134 within one week after delivery. Boxall[16] in a paper read in this Section did not think that this was due to a delayed period of incubation in pregnant women.

Good work has been done in this Section on the physiological action of the placenta by Professor W. E. Dixon and Dr. Frank Taylor,[17] but very much more remains to be done.

I wish to allude to a few instances showing our ignorance as regards the origin of common diseases, for it is mainly the etiology of obstetric diseases which is now puzzling us.

Hydatidiform degeneration of the chorion.—What, for instance, is the cause of cystic degeneration of chorionic villi? We believe it is of fœtal rather than maternal etiology, but mainly because it may occur in one of twins, the other placenta being normal. Wh.. else do we know about its causation? The frequent association of lutein cysts with this condition, and the established fact that destruction of the corpus luteum in rabbits prevents implantation of the fertilized ovum by preventing the development of the trophoblast, has led to the belief that this excess of lutein tissue may be the cause. Perhaps, as Dr. G. F. Blacker suggests, there may be a common cause both of the proliferation of the chorionic epithelium and of the lutein cells. What explanation again have we of the development of chorion-epithelioma? Is there a benign and a malignant hydatidiform degeneration of the chorion? Can they be differentiated? What is there in chorion epithelioma different to other malignant growths, which in some cases enables a timely hysterectomy to cure the patient even when metastatic growths have developed in the lungs? Is there a benign and a malignant chorion epithelioma as has been suggested?

Ectopic gestation.—Are we any more sure of the causes of tubal gestation than we were before Lawson Tait suggested a previous chronic salpingitis?

Phlegmasia alba dolens.—What, again, is the pathology of true phlegmasia dolens (the lymphangitis type)? Is it an infection or a secondary toxæmia? Its sudden, fairly punctual onset, its course and duration, all point to a specific microbic origin.

Pyelo-nephritis of pregnancy.—What is the true explanation of the pyelitis of pregnancy due to bacillus coli infection? And why is the right kidney almost always primarily attacked? Explanations are plentiful, fanciful, and often mutually destructive.

II.—*Gynæcology.*

Inflamed appendages.—Turning now to gynæcology I would like an authoritative paper from one of our seniors as to when a pyosalpinx or a matted tube and ovary, the result of salpingitis, should be operated upon, and when left alone or otherwise treated. Personally I believe that such cases should very rarely be dealt with by abdominal section, and practically never during the acute stage when the pus in the tubes is virulently infective.

Fibrosis of uterus.—What do we know of the pathology of so-called fibrosis of the uterus? There is no doubt it exists, though till lately it was unsuspected. The best account of fibrosis which I have read is in Dr. Eden's "Manual of Gynæcology," but are the microscopical changes described by him infective, inflammatory, or degenerative? In such cases, with our present knowledge, hæmorrhage becomes almost intractable. Can nothing but hysterectomy stop the bleeding? Would Röntgen rays do good?

Menorrhagia of puberty.—What is the explanation of the menorrhagia of puberty, which is sometimes so severe and intractable as to bring young girls almost to death's door? Is it a uterine or a constitutional disease? There is no direct evidence that it is due to a blood abnormality, yet the best remedy in my experience is prolonged treatment with lactate of calcium.

"*Fungous endometritis.*"—I would like this Section or the Obstetric Section of the International Medical Congress, meeting in 1913, to decide that the word "endometritis" should cease to be used for adenomatous overgrowths of the uterine mucosa. Everyone agrees that it is an obsolete and erroneous expression, yet its use is continued, often with the prefix "so-called," or it is put in inverted commas to show its erroneous ambiguity. The main difficulty is to find a word which will cover all the benign varieties of adenomatous overgrowth which would be included, just as the word "adenoids" covers different types of adenomatous growth in the naso-pharynx of children. In this connexion I may mention that I have very frequently found that women from whose uteri I have scraped unusual quantities of adenomatous tissue suffered from adenoids as children.

Vascular caruncle.—What is the cause of vascular caruncle of the urethra? And why is it so prone to recur? How is it that no nerve tissue has been demonstrated in their structure when they are such painful growths?

Fibromyomata.—Dr. Clay of Manchester,[18] a Fellow of the Obstetrical Society of London, read at one of its meetings in 1863 an account of two abdominal hysterectomies with intraperitoneal treatment of the stump for fibroids done in 1844 and 1863, the first performed in this country, one recovering.

[10] Proceedings of the Royal Society of Medicine (Obstetrical Section), vol. ii., p. 129.

[11] THE LANCET, June 3rd, 1911, p. 1526.

[12] Medical Press and Circular, August 15th, 1911, p. 166.

[13] Zeitschrift für Geburtshülfe und Gynäkologie, Band lxvi., Heft 3.

[14] Dr. G. F. Blacker: Practice of Midwifery, 1910, p. 1001.

[15] Puerperal Scarlatina, Obstetrical Journal, vol. iv.

[16] Transactions of the Obstetrical Society of London, 1888, vol. xxx., pp. 11 and 126.

[17] Proceedings of the Royal Society of Medicine (Obstetrical Section), vol. i., p. 11.

[18] Transactions of the Obstetrical Society of London, vol. v., p. 58.

A study of the transactions of our amalgamated societies shows the steady progress which has been made, until at the present time mortality after hysterectomy for fibroids is almost non-existent unless the operation has been too long delayed, or unless constitutional or local complications are present.

I am, however, entirely opposed to the view that a fibroid which is producing no symptoms should be removed for fear of symptoms or degenerations which may, or may not, subsequently develop. That is not conservative surgery, and unless the patient is going to the tropics, where fibroids always get larger and where menorrhagia is sure to occur, or unless other special circumstances are present, I do not operate till symptoms arise. We are still ignorant of the causation of these fibromyomata.

In his inaugural address in 1887 Dr. John Williams,[19] as he then was, suggested that just as antiseptics in midwifery at that date had given obstetricians the power to prevent chronic disease and suffering in women, so perhaps in 40 years' time some president of the Obstetrical Society would be able to announce that a means of preventing the growth of ovarian cysts, uterine fibro-myomata, and even cancer, had been found. Twenty-four years have since elapsed. Do we as yet know anything more of the causation of these diseases? All observers seem to think that the starting-point is in or around a small capillary.

Lawson Tait,[20] in 1882, believed that the deranged production of muscle cells which began by a growth near to a vascular supply was due to some error of the nerve influence which he believed to govern menstruation.

Dr. Elizabeth Willey[21] drew attention in a valuable paper at this Section in 1909 to the views of Klebs, Pilliet, and others who believed that fibroids begin in the uterine capillaries themselves. Dr. Willey considers that fibroids originate in proliferating muscle cells developed in vascular tissue, and that the stimulus producing the proliferation has some relation to the activity of the sexual organs. Even, however, if these views are right we need to discover the remote cause, which acting probably through the blood-supply, stirs these muscle cells, grouped round the smaller vessels, into activity. The effect of oöphorectomy and the action of X rays point to the exciting influence being an ovarian (Graafian follicle) internal secretion. Can lutein tissue here again be the starting-point in the development of fibroids?

Cancer of the uterus.—Is anything known of the cause of uterine cancer? Do we realise that in the last nine years over 34,000 women in England and Wales have died from cancer of the cervix uteri? This is at the rate of 3777 deaths a year. Since Sir John Williams's Harveian lectures in 1886, but little has been done to try to find the clinical precursors to cancer of the cervix. Sir John Williams proved that there was no causal relation between cervical laceration and cancer, and considered there was then no available scientific evidence that glandular erosions predisposed to malignant change. Those who have had patients develop cancer of the cervix, whose previous clinical history is known as regards changes in the cervix uteri, might easily help us to obtain evidence on the subject. He quoted the views of Ruge and Veit, who had described cases of glandular cancer originating in erosions, and also described cases of his own where cancer had developed from the deeper glands underlying an erosion, but he had always found healthy gland tissue between the new growth and the papillary glands of the erosion. He had seen no case where the surface glands of an erosion became primarily cancerous.

"*Cervical erosion.*"—Our views as to the significance of cervical erosion will depend upon the views we hold regarding the relationships between this so-called erosion and cancer. Although Dr. Bennet's pathology, nomenclature, and his overdrawn accounts of the conditions were alike wrong, he was the first, as Dr. Watt Black told us in one of his presidential addresses, to discover that pelvic inflammation existed in the non-puerperal state. Has not the pendulum of reaction, due in this case to the exaggerations of the discoverer and the ridicule of his critics, swung too far? Are we correct in our present view that we may safely ignore the existence of an erosion? Have we no evidence that it may predispose at a later date to a less benign proliferation of the underlying glands and of their lining of columnar cells, and be, in fact, an early evidence or indication of a tendency towards epithelioma? Prolonged ineffective treatment of an erosion causes great inconvenience to the patient, and, as Dr. Herman has emphasised, adds distinctly to her nervous tension. What, then, should be our attitude in dealing with cervical erosions? I notice that many advise that erosions should be treated drastically; for instance, by scraping deeply and using the actual cautery. Is this because they have a misgiving that they predispose to epithelioma? I have no real evidence one way or another, and personally do not feel able to dogmatise on the subject.

Dysmenorrhœa.—There is no recognised consensus of opinion on this subject. Indeed, I think views as to dysmenorrhœa are less definite now than they were two or three years ago. What examiner in gynæcology would venture to give a question to-day on the varieties and causation of dysmenorrhœa? The elementary question, "What is dysmenorrhœa?" or even "Whether dysmenorrhœa is a symptom or a disease?" would meet with curiously divergent answers, according to the medical school of the student.

Ovarian papillomata.—What is the explanation of the occasional complete disappearance after an apparently useless laparotomy of large masses of ovarian papillomata which have extensively involved both the peritoneal and subperitoneal tissues, the patient recovering perfectly with nothing but a fibrous body to show where the ovary originally was?[22] In the large majority of such inoperable cases death rapidly supervenes, yet the papillomatous growth is microscopically identical with the cases that recover. In other words, how can we tell when such papillomata are malignant or benign?

The future of gynæcology.—What is to be the future of gynæcology? Is it to continue to become more and more surgical? I think not. Is it not more than possible that in the near future some President of the section will give an inaugural address upon "Treatment Other than Operative in Gynæcology," and will base his remarks upon the wonderful discoveries being made in bacteriological, chemical, electrical, and radiographical therapeutics? Even as it is, without considering these new aids in treatment, is there not a tendency nowadays to consider ourselves surgeons only, rather than a happy combination of physician and surgeon, to advise an operation because it is the easiest way to treat a case, or to operate on the rush of both hospital and private practice without previous adequate constitutional preparation of the patient?

Wertheim's operation.—Are we not also prone to go to extremes in the details of some of our newest methods of operating? I doubt much if Wertheim's operation for the very advanced cases of cancer of the cervix uteri will continue to be considered wise, nor do I think it will continue to be adopted for very early cases, but rather be reserved for those middle cases where the extended operation is likely to be permanently successful, and worth the extra immediate risk, or where in an early case it is doubtful whether a vaginal operation would suffice to remove all affected tissues.

Ventrifixation.—When one hears of the large numbers of cases of ventrifixation being done both in hospital and private practice, and the numerical proportion they bear to other abdominal operations, one ventures to wonder whether those who thus so frequently treat prolapse and retroversion have had any real experience of the advantages during the child-bearing age of vaginal pessaries wisely selected and skilfully applied. I have not come across cases requiring ventrifixation in anything like the proportion that some others have, and I do not know how to explain the difference.

Mortality Statistics.

Why is it that statistics of large series of abdominal operations are not improving during the last few years? Zweifel says that the death-rate from all causes after operation has risen from 5·5 per cent. in the period 1887–92 to 7·8 per cent. in the period 1903–09. No doubt this is partly due to the introduction of such heroic operations as Wertheim's for uterine cancer, but when these operations are excluded the mortality is still 6 per cent. He considers that the increase is mainly due to pulmonary embolism which caused 18 deaths in 1832 operations, and he attributes it to the systematic use of Trendelenburg's position. By avoiding

[19] Ibid., vol. xxix., p. 107.
[20] Transactions of the Obstetrical Society of London, vol. xxv., p. 200.
[21] Proceedings of the Royal Society of Medicine, vol. ii., p. 164.
[22] Amand Routh: Transactions of the Obstetrical Society of London, vol. xlix., 1907, p. 216.

flexure of the legs and lowering of the shoulders he only had three deaths in the following 806 operations. Olshausen agrees with Zweifel in his conclusion.

CONCLUSION.

We are at the beginning of a period when other methods of treatment than surgery are being gradually opened up, but are we not rather closing our eyes to those aids which are already known to us? How many of us have tried to arrest hæmorrhage from fibromyomatous uteri in cases refusing, or unsuited for, an abdominal operation by transferring the patient to our electrical colleagues for exposure to X rays? I have done so in both hospital and private cases, especially at menopause ages, with distinct success. The rays arrest ovulation and the formation of lutein tissue, by action on the Graafian follicles, and arrest the growth of fibroids owing to that action and to special action upon the cells forming the fibroid itself. I have not yet had a chance of using X rays in fibrosis uteri.

Again, do we realise that a tube of radium inserted two or three times for 20 minutes into the crater cavity of an incurable uterine carcinoma in many cases causes complete, though so far as is yet known only temporary, relief from pain and discharge? Are we alive to the remarkable effect of electric heat and light baths, which can be easily applied by fixing electric lamps to the ribs of a bed-cradle? These "baths" speedily relieve pelvic pain and promote rapid absorption of both parametric and perimetric exudation after the acute stage is over.

Dr. Curtis Webb's [23] strong advocacy at our section of ionic medication drew attention to another electro-therapeutic mode of treatment which may prove of much utility in the future.

Bacon said: "The whole art of medicine is observation." Observation in medicine in Bacon's time was almost purely clinical, and treatment largely empirical. The enthusiasm and hard work done by our section, and by our younger members especially, are gradually unfolding the obscurities still remaining in obstetrics and gynæcology. The clinical facts now brought before us at our meetings are not, as in the early days of the society, all that is recorded, but practically every such history is accompanied by a pathological, and sometimes with a bacteriological, report also. These, and the addition in suitable cases, such as the toxæmias of pregnancy, of the report of a physiological chemist, will, I hope, ere long enable us to discover the still unknown causes of the many diseases we daily discuss, to some of which I have referred. And when we know the causation, our efforts, both towards prevention and cure, must have their due reward. The discovery of the toxin in a toxæmic case by means of a perfected physiological chemistry will point to its antidote, and diseases which now find us helpless to combat them will readily yield both to prevention and to treatment, and critical diseases, such as puerperal eclampsia, now treated by such different surgical procedures as Cæsarean section, decapsulation of the kidneys, or even by amputation of the breasts, according to the theory or caprice of the operator, will be successfully dealt with by rational methods. I trust that the Obstetrical and Gynæcological Section of the Royal Society of Medicine will help in no small measure to a solution of the many problems which are still eluding us.

[23] Proceedings of the Royal Society of Medicine (Obstetrical Section), vol. iii., 1910, p. 16.

SANATORIUM FOR THE TREATMENT OF TUBERCULOSIS AT WESTON, TORONTO.—In THE LANCET of Dec. 17th, 1910, an account was given of the free sanatorium for consumptives at Weston, near Toronto. Soon after the account was published the greater part of the buildings of this institution were destroyed by fire. That known as the King Edward building, the newest portion, and situated at some little distance from the other buildings, was unharmed. The majority of the patients are now accommodated in the King Edward building, which was designed to hold 30 patients, but now contains considerably more than that number. In fact, the existing accommodation of the sanatorium is not adequate, and steps are to be taken to rebuild on a larger and more substantial scale than formerly. How the money for this purpose is to be raised has not yet been decided upon, but it is stated that a decision will be reached shortly.

Hunterian Lecture

ON

INTRACRANIAL MURMURS IN THEIR RELATIONSHIP TO TINNITUS AURIUM.

Delivered before the Hunterian Society on Oct. 11th, 1911,

BY THEO. B. HYSLOP, M.D., C.M. EDIN., M.R.C.P. EDIN., F.R.S.E.,

LATE RESIDENT PHYSICIAN, BETHLEM ROYAL HOSPITAL; LATE LECTURER ON MENTAL DISEASES, ETC., AT ST. MARY'S HOSPITAL MEDICAL SCHOOL, AND AT THE ROYAL FREE HOSPITAL.

MR. PRESIDENT AND GENTLEMEN,—In selecting "intracranial murmurs" as the subject of this lecture I am fully aware of the difficulties before me. Our knowledge of the various conditions which lead to the subjective appreciation of "tinnitus aurium" is not only very extensive but also somewhat bewildering in its complexity. The term "tinnitus" is applied to certain noises usually heard by the patient only, and not by the observer, and the explanations of their existence have occupied a considerable amount of attention. The sounds are often located in some region of the head (tinnitus capitis) and not in the ears, and it is with the possible intracranial origin of such sounds that I propose to confine my attention.

With regard to tinnitus so frequently associated with some disease in the ear I have but little to say. The noises caused by some foreign body, such as cerumen, in the meatus, by some affection or obstruction in the Eustachian tube, or by some nasal or naso-pharyngeal obstruction, by affections of the tympanic membrane, and such conditions as oto-sclerosis, chronic suppuration of the middle ear, and diseases affecting the labyrinth, are all outside present consideration. It is fully recognised that tinnitus may be caused by various changes in the vascular supply to the brain and auditory apparatus, as exemplified in conditions of syncope, hæmorrhage, heat apoplexy, anæmia, arterio-sclerosis, gastro-intestinal disturbances due to reflex irritation of the vagus, toxæmia, uræmia, alcohol, quinine, tobacco, and other drugs, also to anæsthetics, such as ether, chloroform, &c.[1] Wylie refers to other causes of tinnitus, such as variations in the quantity, quality, and pressure of the blood, either in the ear itself or in the brain, such as are induced in adults by worry, excitement, fatigue, debility, indigestion, pregnancy, and menstruation. Tinnitus is also present in cases of vertigo, diseases of the middle ear, the inner ear and labyrinth, or in cerebral disease, or it may be due to reflex irritation from gastric, hepatic, or urinary disorder, or to drugs.

The characters of these noises, described as ringing, whistling, hissing, cracking, pulsating, soft blowing, continuous or intermittent, monotonic or polytonic, have all been fully recognised, adequately differentiated, and explained when associated with disease of the auditory apparatus; but when, on the other hand, they appear to be of intracranial origin their recognition, objective appreciation, and explanation have not been by any means so satisfactory. The various signs and symptoms of tinnitus associated with disorders of the middle and inner ear, whether caused by affections of parts supplied by the vertebral, basilar, or carotid arteries, or by some venous congestion caused by the pressure of growths, or goitre, on the jugular veins, or by any cardiac diseases, are also of importance, but outside present consideration.

In 1868 Dr. James Jago[2] gave an account of certain acoustic phenomena which had their seat of origin elsewhere than in the ear itself, and he devoted a considerable amount of attention to the consideration of the means whereby sonorous vibrations were able to traverse the different structures of the head. He pointed out that vibrations were conducted best in compact structures, such as bone and cartilage, and but little through such soft substances as muscle, brain, connective tissue, fat, and skin.

[1] Andrew Wylie: Proceedings of the Chelsea Clinical Society, vol. i., p. 52.

[2] Jago: British and Foreign Medical and Chirurgical Review, vol. xlii., 1868.

The frame receives vibrations from an external body best where it is naked, next best where it is most thinly clad (as at the cartilaginous or bony part of the meatus), and, least of all, wherever there intervenes a watery skin instead of a dry one. In this way is to be explained the fact that sounds having their origin within the brain are not conducted (in health) through the watery medium of the subdural and other intracranial lymph cisterns to the dense bony structures of the skull itself.

NATURE OF THE PROBLEM.

The problem now before us is concerned, not only with the origin and propagation of intracranial sounds to the auditory organs, but also with the effort to explain why sounds—which must necessarily occur in structures such as the brain or wherever there is movement—do not invariably become appreciable subjectively—i.e., what is the nature of the protective mechanism which prevents our subjective perception of actual intracranial movements? With regard to the means whereby sound vibrations are conducted from the bony structures to the auditory apparatus, and the various affections which may impair or intensify that conduction, I shall say but very little, my object being merely to bring before you some facts and theories pertaining to intracranial physics and pathology which may in part serve to explain the origin of some of the entacoustical phenomena which may be appreciable not only subjectively by the patient as tinnitus, but also objectively by the observer as intracranial murmurs. Jago stated that he was not aware that anyone had pretended to have auscultated a tinnitus aurium, and he believed that auscultators have been deceived by accompanying noises. Later he conceded that there might be intracranial noises which ought to be distinguished from pulsatory noises emanating from alterations in the calibre of arteries or veins about the region of the ear, and he quotes Hinton with reference to the beating character, synchronous with the pulse, of certain murmurs sometimes due to aneurysm of the basilar artery.

Sir William Dalby has mentioned a case of tinnitus of so distressing a character that life was rendered perfectly wretched. All the best surgeons in Germany had been consulted without benefit. According to a request made in this patient's will, that his ears should be examined after death, a most careful dissection was made of the temporal bones. No abnormal appearance of any kind was detected. "In the face of this," says Sir William Dalby, "we certainly are not in a position to give a satisfactory explanation of this symptom except in a certain number of cases. For the rest we must be content at present to admit our ignorance of the cause, consoling ourselves with the reflection that the confession of ignorance is the first step to knowledge." There are probably but few of us who have not experienced a similar sense of failure. Dr. Thomas Barr,[3] speaking of tinnitus aurium of intracranial origin as being not only frequent but also a subject for which otologists eagerly and earnestly desired further knowledge, states that a monument truly awaits the man who finds an effective remedy, surgical or medical, for the hitherto incurable forms of this malady. I, for my part, have long sought explanations of some of the auditory phenomena in the insane. The pathological conditions underlying some of their abnormal conditions of auditory perception must of necessity require many years of patient labour and observation. It may be that in some instances, and especially in cases where the sheath of the auditory nerve is affected by an increase of pressure in the lymphatic fluid, direct stimulation of the nerve may cause subjective phenomena somewhat similar to those occurring in connexion with the visual sense when the specific energy of the visual apparatus or tracts is irritated and manifested by symptoms ranging from scintillating scotomata to mere sparks of light or pressure phosphenes. I believe that such direct stimulation is rare except in cases in which degeneration of the auditory nerve is taking place. Another point to be noted is that, although pulsatile tinnitus is common, rarely do we have evidence of similar pulsatile phenomena in connexion with any other of the cranial nerves which, in all probability, would be subject to somewhat identical conditions of influence.[4]

[3] Thomas Barr, M.D.: "Treatment of Tinnitus Aurium," Brit. Med. Jour., vol. ii., p. 1130, 1909.

[4] Gowers states that intermittent sounds may be of central origin, and he has recorded a case of epilepsy in which part of the aura was an intermittent hissing, evidently synchronous with the pulse, and succeeded by two bright lights which seemed to approach the patient by jerks of the same rhythm as the preceding sounds.

With regard to the subjective localisation of sounds, it must be noted that in some instances the power to distinguish between entotical sounds and those of external origin is impaired or even entirely lost. In the insane, for instance, sounds of entotical or intracranial origin may be located externally, in accordance with the law of the eccentric projection of sensations. Sometimes, however, they may be located within the cranium, and when they are hallucinatory they may be capable of a psychological explanation, either as purely auditory, or as revivals of articulatory images. We have, therefore, various sources of error in the subjective localisation of sounds, and a full account of the phenomena of intracranial murmurs requires full consideration of factors which are either exoneural, entotical, esoneural, or psychical. For present purposes, however, we must exclude all exoneural and psychical considerations and deal only with such conditions as are esoneural and as are in more or less direct relationship to the entotical data which have been already so elaborately studied by otologists.

COMPARATIVE ANATOMY OF CEREBRAL LYMPHATIC SYSTEM.

The original form of the auditory organ is a vesicle derived from the epiblast. In the embryo the vesicle becomes separated from the epiblast and becomes connected with the auditory nerve which grows towards it from the brain. It then sinks deeper into the mesoblastic tissue of the skull and becomes divided into the utriculus, from which the semicircular canals become differentiated, and the sacculus, from which the recessus vestibuli and the cochlea are formed. This whole apparatus constitutes the membranous auditory organ or membranous labyrinth. Later, the surrounding mesoblastic tissue becomes chondrified and also ossified to form the bony labyrinth with a cavity (cavum perilymphaticum) filled with perilymph between them. The cavity within the membranous labyrinth (cavum endolymphaticum) contains the fluid endolymph. In fishes the ear lies close under the roof of the skull, and is thus easily accessible to the waves of sound. As we pass higher in the vertebrate series the auditory organs sink deeper in the skull. The comparative anatomy of the ductus perilymphaticus which (from the reptiles onwards comes into connexion with the epicerebral lymph-sinuses serves as a communication between the perilymphatic cavity and the peripheral lymphatic system of the head) is of great interest, and the internal relationships of the perilymph to the endolymph are suggestive of some explanation of the ability of fishes to resist great increase of external pressure, and of birds by means of their air sinuses to resist great diminution of pressure. The main point for present purposes rests in the fact that pressure variations affecting the perilymph may either directly or indirectly affect the endolymph.[5]

At a very early stage of development swellings of the anterior, middle, and posterior cerebral vesicles can be seen. Their cavities, or ventricles, are in direct connexion with the central canal of the spinal cord. The walls of these cavities become more and more thickened, so that the cavities themselves become gradually more constricted. In the lower vertebrates the brain by no means fills the cranial cavity, but in the higher vertebrates the subdural lymph spaces gradually become less in proportion to the other cranial contents. The significance of this will be seen when we discuss the movements of the lymph fluid in relationship to intracranial murmurs.

PHYSIOLOGY OF THE INTRACRANIAL CIRCULATION.

Consideration of the details of the arterial circulation within the cranium need not detain us. Much discussion has arisen in connexion with the manner in which the various anastomoses occur, and elaborate explanations have been given as to the methods whereby local demands for an increased supply of blood may be determined.

In the brain mass the venous system is, like the arterial,

[5] The endolymphatic duct at its upper end perforates the inner wall of the cartilaginous or bony auditory capsule, passes into the cranial cavity, and ends in an expansion (Saccus endolymphaticus) in the dura mater; osmosis can thus occur between the lymph contained in the endolymphatic and epicerebral-lymph spaces respectively. Wiedersheim, "Comparative Anatomy of Vertebrates," p. 205, gives the relationships of the lymph systems as follows: "In Elasmobranchs, the ductus endolymphaticus opens on the posterior part of the roof of the skull, and is thus in free communication with the sea-water. In many reptiles its free end comes to lie close under the roof of the skull beneath the parieto-occipital suture, and in the Ascalabota the duct even leaves the cranial capsule, passes back between the muscles of the neck, and in the region of the pectoral arch becomes swollen to form a large folded sac, from which finger-shaped processes extend right to the ventral surface of the vertebral column and to the submucous tissue of the pharynx. These processes may also branch out in a labyrinthic manner into the orbit, and they are always filled with a white semi-solid mass of otolithic substance, consisting of very minute crystals of carbonate of lime; otolithic matter is also present in the ductus endolymphaticus of all vertebrates, at any rate in the embryo." "In Amphibians, and also in certain Teleosteans, the duct of either side, by means of large sac-like enlargements, may come to lie close to its fellow, either on the dorsal surface only, or on both dorsal and ventral sides of the brain. The latter is the case in Anura for instance. In birds and mammals the ductus endolymphaticus never passes out of the cranial cavity, and in its general relations corresponds with the tube-like ground form described above.

practically capillary, and only on reaching the pia mater do the vessels so coalesce as to form veins of appreciable size. The capacity of the veins within the skull is, as a rule, greater than that of the arteries. The veins, instead of all converging to form trunks differing only in bulk from one another, are emptied into the dural sinuses which cannot, under any circumstances, become appreciably altered in size—i.e., the sinuses can neither collapse from pressure from without nor yield to distending forces from within. The veins from the pia mater open obliquely into the great longitudinal sinus in a direction opposite to the current of the blood. These facts seem to indicate a design whereby the venous outflow is regulated so as to prevent its becoming unduly slow or rapid. The absence of valves in the intracranial veins would, in a measure, prevent the occurrence of any venous murmurs such as are sometimes heard in connexion with the bulbous dilation of the jugular vein, and as in the crural vein in the groin. The exact functions of the trabeculæ found in some of the intracranial veins is uncertain. Possibly they serve not only to regulate the flow of venous blood, but also to prevent the conduction of sound vibrations which might occur in connexion with the flow of blood from vessels of smaller into those of greater calibre. It is assumed that the flow of blood in the venous sinuses of the brain is continuous—without any possibility of pulsatile waves. We know, however, that when the capillaries are greatly dilated, and when the arterial blood pressure is high, the pulse-wave may be propagated through the capillaries into the beginnings of the veins. In the brain, enclosed as it is within an immoveable structure, the only sources of outflow are by the inelastic venous sinuses and by the cerebro-spinal lymph channels. It is readily conceivable, therefore, that any increase of pulsation in the brain itself may communicate pulsations to not only the cerebro-spinal fluid, but also, by direct pressure on the elastic and collapsible intracranial veins of the inner membranes, to the larger venous sinuses. The extra vascular pressure thus causes extra venous pressure, and it is not improbable that a venous sound so generated in the torcular may be propagated in the direction of the venous flow, or even through the denser structures of the cranial bones. Coming now to the other contents of the cranium, it is necessary to speak of the relationships of the cerebro-spinal fluid. The cranium being an immoveable and rigid box does not allow of expansion or contraction either in consequence of pressure from within or without. We can neither add to, nor subtract from, the sum-total of its contents. The brain substance and the cerebro-spinal fluid are in themselves passive, the latter being compensatory to the expansion or collapse of the former, and both reacting to variations in the arterial or venous pressure.

The term "cerebral pressure" really means, therefore, either undue preponderance of one or other of the cranial contents, partial displacement of one or other constituent, acceleration of the arterial or retarding of the venous circulation, or alteration in the compensatory movements of the cerebro-spinal fluid. Arterial, venous, lymphatic, and other forms of pressure due to injury or disease, &c., are but terms used to signify alterations either in the position or in the relative quantities of the cranial contents. The intracranial contents being in the sum incapable of expansion or contraction, it is of importance to note the mechanism whereby the "give and take" between them is affected. The brain itself is inelastic and passive, and depends upon arterial, venous, respiratory, and peristaltic movements for its metabolism and activities. Its substance may be displaced, contracted, expanded, or destroyed by injury, disease, new growths, or finer interstitial degenerative changes. The arterial system may preponderate unduly in its activities, the relative amount of arterial blood being greater than in health. This is due either to excess of propelling action in the arterial system or defect in resistance of the venous or lymphatic systems. The arterial blood may be diminished, on the other hand, owing to defect in the propelling mechanism or to increase in the resistance offered by the venous or lymphatic systems. Similarly, the arterial and venous systems may be concurrently hyperactive or deficient owing to diminution or excess of the constituents of the lymph cisterns. Perfect balance of the relative quantities of the cranial contents thus presupposes certain activities or movements, which are also essential to proper metabolism. The skull thus regulates the pressure of the fluid within its cavity, and any functional increase in the arterial blood would be possible only upon one of two conditions—viz., a corresponding collateral arterial diminution, or a transfer of venous blood in the direction of the venous sinuses. A venous transfer would be altogether too slow, and there could not be any continuous action, for the repulsion of the venous current—dependent upon the respiratory movements—would give rise to a frequently interrupted flow of venous blood in the brain. The cranial cavity is not, however, entirely filled by the brain; it includes, in addition, a number of spaces filled with lymphatic fluid. The dura mater is separated from the arachnoid by a comparatively small space which is lined by endothelium. This space communicates with the lymphatic glands of the neck, and with the subdural spaces which do not immediately surround the nerve-roots, but do so in common with the arachnoid and are connected with the lymphatic spaces of peripheral nerves. As an example, we have the communication between the auditory labyrinth and the subdural space through the spaces which surround the auditory nerves. In the tissue of the dura itself there are also lymph spaces which are connected with the subdural space. The lymph cisterns are traversed by a network of threads and trabeculæ of connective tissue, the threads being narrower at the summits of the convolutions than over the sulci, whilst at the base of the brain where the subarachnoidal spaces are dilated there may be none. It is impossible here to give any account of the anatomy of these lymph cisterns; instead, it must suffice for present purposes to note that they act, not only as water cushions to minimise shocks to the brain and to compensate varying conditions in the blood pressure, but their fluid contents may also serve to prevent the conduction of intracranial sounds to the internal table of the skull. This, of course, refers to normal conditions of the lymph cisterns and their contents, and does not include abnormal conditions in which they may not only fail as non-conductors of sound but in their nature and contents may even be the source of origin and means of propagation of various sonorous vibrations, which may be heard both subjectively and objectively.

Before entering upon a description of the various brain movements it would, perhaps, be well to consider briefly some points in regard to the Pacchionian granulations which occur in the course of all sinuses, and more particularly alongside of the sinus longitudinalis. The cerebro-spinal fluid is removed from the subarachnoidal space by several channels. Much of it passes into the spinal cord, the remainder passes along the sheaths of the cranial nerves, or is excreted by the Pacchionian bodies into the superior longitudinal sinus. The point to recognise is that the fluid from the subarachnoid lymph spaces, when forced from the brain by increased intracranial blood pressure, not only passes into the perilymphatic space of the labyrinth and thereby tends to modify the pressure of the endolymph, but it also serves as a more direct conducting medium for sound vibrations arising in connexion with the pulsatile or other movements of the brain, shortly to be described. The average quantity of cerebro-spinal fluid within the cranium is said to be about two ounces, but the importance of its several functions is but seldom correctly estimated. Its presence not only serves to regulate and make the pressure uniform when brain movements occur, so that every systolic and expiratory dilation of the blood-vessels is concentrated upon those parts where least resistance is offered, but it also acts as the medium for the removal of intracranial waste products.

BRAIN MOVEMENTS.

There are three different kinds of brain movements: (1) Pulsatile movements communicated from the pulsations of the large basal cerebral vessels; (2) respiratory movements, in which the brain rises during expiration and falls during inspiration; and (3) vascular elevations and depressions which alternate and are due to periodic dilatation and contraction of the blood-vessels. This last is a peristaltic arterial movement, regulated by the vaso-motor centre, and occurs from two to six times per minute. Needless to say, it is in connexion with one or other of these movements that sound vibrations are apt to occur in the arterial, venous, or lymphatic systems.

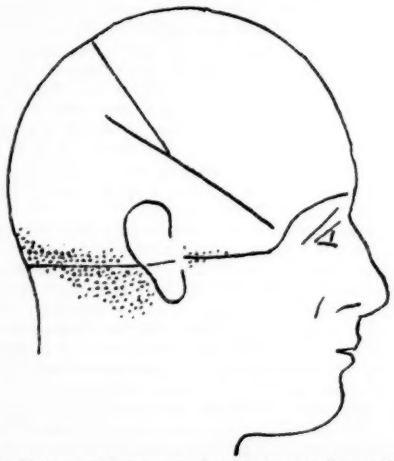
The pulsatory movements of the brain are exceedingly interesting, and undoubtedly they most frequently give rise to intracranial murmurs. From the circle of Willis the

arteries ascend, and their currents are directed upwards in the same direction as the venous currents. The large arteries at the base of the brain communicate a movement to it, each pulse wave raising it up and thereby compressing the cerebral veins. In expiration the venous blood is dammed back into the sinuses, and the brain expands at the expense of the cerebro-spinal fluid. During inspiration the veins are emptied by suction action, the brain collapses, and the cerebro-spinal fluid re-enters the cranial cavity.[6]

During these movements the cerebro-spinal fluid is subjected to doubly compensatory movement—i.e., the pulsatile movement is mainly intracerebral and is concerned mainly with the passage of the fluid through the cerebral tissues and the ventricles, and the respiratory movement which is concerned mainly with the flow of the fluid to and from the cranium. Thus it is that the vascular mechanism of the brain determines not only the intracerebral, arterial, and venous movements, but it also serves to give a peristaltic movement to the ventricles of the brain whereby the cerebro-spinal fluid is slowly passed onwards. This double action may be expressed in another way. The pulsatile action is a factor of causation of the circulation of the blood within the cranium, and it aids in the peristalsis of the intracranial lymph fluid, whereas the respiratory action affects not only the venous flow but also the "give and take" of the cerebro-spinal fluid as a mass in its internal and external relationships.

It seems certain that any excess of cerebro-spinal fluid is always compensatory, and its tension must always be equivalent to that in the veins. For our purpose it is interesting to note that excess of cerebro-spinal fluid within the cranium is not, as a rule, attended by tinnitus. Amongst the numerous cases of cerebral atrophy or sclerosis, with large amounts of compensatory cerebro-spinal fluid, I have met with, tinnitus has been rare. I have, however, seen one case of dementia in which there was an excess of cerebro-spinal fluid and an obstinate intracranial murmur of respiratory rhythm, and located by the patient as being "deep down" in his brain, and distinctly audible on

FIG. 1



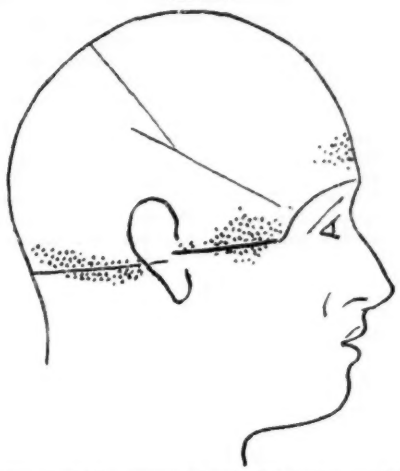
Seat of intracranial murmur of respiratory rhythm audible both subjectively and, on auscultation, objectively.

auscultation at both sides of the base of the skull under, and posterior to, the mastoid. Post-mortem examination showed an excess of fluid over the sulci of the convolutions, and chiefly at the base where there were also considerable roughening and large transverse ridges of the inner surface of the bone stretching across the middle cranial fossæ. In this case it seems probable that the tinnitus was due to the to-and-fro movement of the cerebro-spinal fluid over the roughened bone, and its seat of origin in close proximity to the internal ear apparatus rendered it particularly noticeable to the patient. The auditory apparatus appeared to be healthy. (Fig. 1.) It is to be noted that the murmur was of respiratory rhythm and there was no evidence of its having been in any way affected by the pulse wave.

[6] Leonard Hill: Physiology and Pathology of the Cerebral Circulation.

When there is great expansion of the cerebral volume, owing to arterial pressure, and the cerebro-spinal fluid has been driven out of the cranium, the brain comes into contact with the rigid bone, and, as a consequence, any murmur which becomes audible, either subjectively or on auscultation, is nearly always pulsatile, and in the few instances I have seen in which the patients have complained of loud sounds accompanying each pulse wave I have not been able to locate any particular intracranial murmur, nor have I been able to exclude the possibility of their having been subjective so far as I myself was concerned. With regard to the so-called vascular wave, which is due to a peristaltic arterial movement, regulated by the vaso-motor centre, and occurring from two to six times per minute, I have but very few clinical data. These vascular movements constitute an important factor in the nutrition of the brain and in the exchange of metabolic products. The advance of the vascular wave in peristaltic fashion provides a motor mechanism designed to carry off waste products through the lymphatic fluids by establishing currents within the brain fluid. This peristaltic wave action on the cerebro-spinal fluid may determine movements of the fluid over or through structures which may, under pathological conditions, determine sounds with a corresponding rhythm and propagated in the directions of the flow to other ventricles or cisterns. Quite recently I saw a case in which the tinnitus recurred for about three seconds every 20 seconds. It could not be located subjectively, but on careful auscultation I was able to detect a very faint sound recurring at intervals longer than those between the patient's and my own respirations. (Fig. 2.)

FIG. 2.



Regions at which a murmur of peristaltic rhythm was faintly audible on auscultation.

In this case the sounds were very soft, and they were best heard in the region of the lateral and cavernous sinuses. I fancied I could also detect them just above the superciliary ridges, and at the time it occurred to me that possibly the sounds might be central in origin and propagated through the fluid of the lateral ventricles. This, however, was, of course, mere conjecture. The patient recovered after a course of treatment by digitalis and strychnine.

Anæmia and hyperæmia[7] are powerful agents in modifying pressure equilibrium. The high arterial pressure which occurs in Bright's disease is attended by undue pressure on the peri- and endo-lymph, and gives rise to tinnitus. In hemicrania due to gout the intracranial arteries may be dilated or hyper-extended, and by their more forcible action not only drive the cerebro-spinal fluid from the cranial cavity causing increased tension in the labyrinth, but, by the same process, force the brain towards the internal table of the skull and thereby render it possible for the pulsatile waves to come into almost direct contact with it. So it is in conditions of plethora culminating in apoplexy, of which tinnitus is an early symptom. Tinnitus is often a prominent and distressing symptom in anæmia and chlorosis. It seems possible, however, that the origin of the murmurs is in

[7] Field: "Abnormal Vascular Conditions Affecting the Organ of Hearing," Medical Times and Gazette, 1878, vol. i., p. 616.

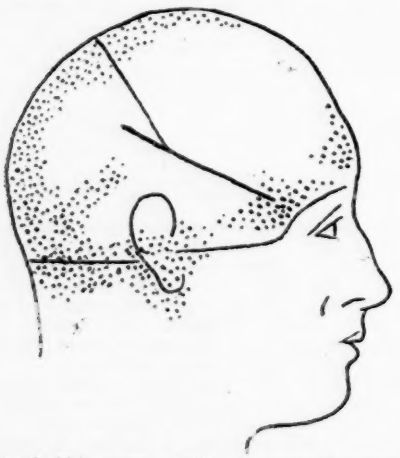
such cases totally different from that of increased arterial pressure. Sometimes the "bruit de diable," either continuous or rhythmical, arising within the bulb of the common jugular vein during diastole and inspiration, is audible both subjectively and objectively. This pathological condition occurs not only in anæmia but also in plumbism, syphilis, scrofula, &c. It is more common in young than in old people, and is due to the vibration of the blood flowing in from the relatively narrow into the wider part of the vein. Similar murmurs have been described as occurring in the subclavian, axillary, thyroid, facial, innominate, and crural veins, and also in the superior vena cava. This can be easily demonstrated by firmly compressing a carotid artery when tinnitus immediately ensues in the corresponding ear.

From certain anatomical and clinical data there appears to be no doubt that intracranial venous murmurs may occur in the same way. The method by which the venous blood from the brain and membranes enters the longitudinal and other great sinuses renders the occurrence of sound-waves not only possible but extremely probable. In health the aspiration of the venous blood from the cranial cavity is probably almost noiseless, but when the aspiration is not supported by a sufficiency of arterial pressure the passage of the venous blood into the sinuses must almost necessarily be attended by murmurs. The exact rôle of the fibrous threads and trabeculæ in connexion with the veins in some localities is not certain. Possibly under certain pathological conditions of impaired activity in the venous outflow there may be with systole and expiration a tendency to regurgitation.

VENOUS MURMURS.

Venous murmurs may be of pulsatile or respiratory rhythm. The blood in the sinuses of the brain may undergo a pulsatile movement owing to the fact that during cardiac diastole much blood flows into the veins (Mosso) and, under some conditions, this movement may be propagated into the veins of the retina and auditory organs. Pulsatile venous murmurs are somewhat difficult to localise subjectively. In young people they are sometimes referred to the region of the lateral sinuses, in climacterics they are more frequent in the region of the longitudinal sinus, whilst, in other instances, especially if they have their origin in the middle line, they cannot be located subjectively. Venous pulsatile murmurs can sometimes be heard on auscultation, and, in the few cases I have auscultated, the murmurs have been confined

FIG. 3.

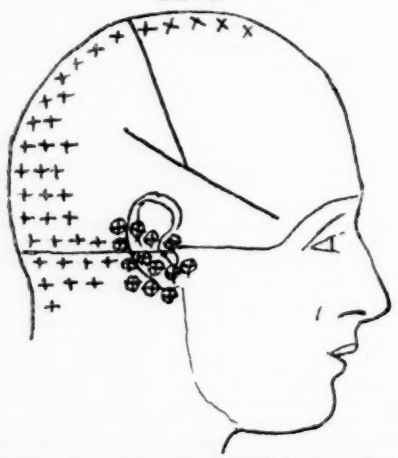


Regions at which venous pulsatile and respiratory murmurs are located subjectively, and which are sometimes audible on auscultation.

almost entirely to the regions of the larger venous sinuses. In one instance only have I heard a respiratory venous murmur which corresponded with each expiration, and this was evidently due to the aspiration of the venous blood from the lesser into the greater veins. (Fig. 3.)

Frequently patients complain of crackling noises in the region of the longitudinal lateral sinuses and the torcular. (Fig. 4.) Their origin is as yet uncertain, and I have never yet succeeded in auscultating them. When occurring in connexion with the Eustachian tube they may be audible to other persons. Possibly they may be associated with the venous cavernous spaces (fovea glandulares) which, according to Langer and Trollard, are caused by the wearing away of the vitrea, and are to be found in drunkards, in the senile, and in the subjects of heart disease. They are sometimes described as being very loud indeed. Sir William Gowers [8]

FIG. 4.



The crosses indicate regions localised subjectively as being the seats of origin of explosive sounds. The crosses within circles indicate regions at which explosive sounds can be auscultated—probably Eustachian.

refers to the sound produced in an internal aneurysm (of the internal carotid or vertebral) which may be heard by another person on auscultation. Greene [9] mentions the case of a boy who had an intracranial murmur audible on auscultation, and in whom an aneurysm was most unlikely. Poosten [10] also speaks of a case in which a pulsatory sound, resulting from some effect of a blow two weeks before, could be heard eight inches from the patient. It not infrequently happens that insane persons state that all their cerebral and mental troubles began with a loud explosion within the head, as if something had given way. Jago has referred to this phenomenon, and mentions a case in which the explosion seemed to occur near one ear, and ended by a prolonged ringing in the other. He says he has also heard a tinnitus hiss or buzz in one ear as if from a distance, and still later to become appreciable to the other ear.[11]

With the exception of the improbable bursting of an air bubble or cell the explanation appears to be rational. The same observer refers to the fact that the two petrosal and the capacious lateral sinuses are actually supported by the bone that includes the labyrinthian fluid; a sonorous vibration affecting the blood within them may be propagated either through solid bone or in an aural vein to the labyrinth. To account for the transmission of sonorous vibrations across the skull I must again quote Jago, who says: "Should an explosion take place in either of these sinuses its sonorous

[8] Diseases of the Nervous System, vol. ii., second edition, p. 273.
[9] Transactions of the American Otological Society, 1878.
[10] Monatsbl. f. Ohrenheilk., 1873, No. 4.
[11] Jago says: "Such facts indicate that the phenomenon cannot be primarily a nervous affection, for we have no reason for supposing that a sonorous sensation ever passes from one nerve to the other. Nor is it observable that the auditory nerves are exposed to be hit in their paths to the brain by any moving body which assails them separately, and that there should be an actual resonance within the cavity of the skull filled up with brain, or that any bell-like ringing in such a bony cavity, if containing nothing but fluid, could happen, is inconceivable; yet the tinnitus, explosive and transitory, has no resemblance to an arterial souffle, or such a capillary or vascular tinnitus as invades the drum. Nor is it aggravated by closing the meatus, not having sufficient absolute intensity to be conveyed thither in any appreciable degree from its point of origin. To me it seems that anatomy reveals but one apparatus in which the phenomenon could take place, and this one adapted to all its phases. I speak of the chain of large venous tubes and receptacles called sinuses, which connect one petrous bone with the other, and both with other intracranial parts, &c. It surely does no violence to probability to assume that in such a blood current a bubble or cell may occasionally burst, some fibre snap, some collapsed vein leading to a sinus be forced open, or some coherent things part. This being granted, the explanation is palpable."

waves would traverse the Cotunnian fluid on that side immediately, but would have to circulate all round the tentorium to play upon the other side of the head, and would thus be heard later upon the second ear. Such an event might even occur in the beginning part of one of the internal jugular veins, or, may be, one of the cavernous sinuses, and the waves have to ripple over one labyrinth in their course through the lateral sinus, the torcular Herophili, and the remaining lateral sinus, to the seat of the other. If it happens in either lateral sinus there will be a difference in the times of their reaching the two labyrinths, and that difference will be greater as it happens farther from the torcular. Whilst should the starting-point be in the torcular, or any one of the sinuses lying in the mesian plane of the head, the two labyrinths will be attained at the same instant. There may be cases, too, in which the undulations may find their way back again to the petrous bone they have already washed, by being reflected, or by winding their way in a circulating manner through one of the small sinuses that help the lateral ones to keep open a communication between the two sides of the head. Lastly, we may imagine that the sounds under consideration may, in certain cases, be increased by resonance; for example, in such a vessel as the torcular." I agree with him that a chief office fulfilled by the numerous bands which give a spongy structure to the interior of the cavernous sinus is to intercept sonorous vibrations that may be impressed upon its blood current by the internal carotid artery which traverses it, that they may be cut off from the petrosal sinuses.

These observations refer to the conduction of venous sounds. Arterial bruits, if intracranial, are more apt to be central and conducted either direct to the bone in conditions of deficiency of cerebro-spinal fluid, along the course of the arterial stream, or indirectly to the labyrinth through the medium of the venous structures or the lymph cisterns as pulsatile phenomena already referred to.

I have but barely referred to some conditions such as cerebral aneurysm, and there are many other psychological and pathological conditions which may give rise to imaginary or real intracranial murmurs. In fact, this lecture is merely an attempt to reopen a line of investigation which ought, in the long run, to throw some light upon the causes of an affliction which in its far-reaching effects is almost as distressing as any other form of disease from which mankind is prone to suffer. Although our knowledge of many intracranial phenomena is at present scanty and our ignorance of other phenomena profound, it will not always be so, and doubtless we shall, in the course of time, be better able to apply methods of treatment which are based upon a scientific and intelligent appreciation of much that is at present enshrouded in mystery.

THE HUNTERIAN SOCIETY.—Dr. R. Hingston Fox, the President of the Hunterian Society, at a gathering of the fellows and friends of the society on Oct. 6th, delivered an address on the Life and Work of Dr. John Fothergill. In the course of his remarks Dr. Hingston Fox pointed out that after taking his degree in 1736 Fothergill came to London, attending St. Thomas's Hospital, and settled in 1740 in the City, hard by Gracechurch-street Friends' Meeting House. Practice came to him, especially from his kindness to the poor; he used to say, "I climbed on the backs of the poor to the pockets of the rich." His opportunity came in 1748 from an epidemic of septic tonsillitis with a high mortality. He studied the disorder, and worked out a method of treatment, not depleting but supporting, and affording nourishment, air, cleanliness, and cinchona bark. With the Society of Physicians (1752) and the Society of Licentiates (1754) Fothergill was closely connected. In the strife with the American colonies Fothergill's intimate friendship with Franklin and large correspondence enabled him to understand both sides, as did few Englishmen at that time. He pleaded earnestly in the public prints for justice; remember, he said, that these colonists are the sons of freedom; they are become a nation; you can never subdue them. He laboured with Franklin and others to make terms of agreement, but it was not to be. He died in the midst of his work in 1780, at the age of 68 years. The spare alert figure with its keen piercing eyes was active to the last.

INTESTINAL HÆMORRHAGE IN TYPHOID FEVER AND ITS RELATION TO THE AGGLUTINATING POWER OF THE BLOOD.

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IN a work[1] published at Copenhagen in Danish, Enud Schroeder, in coöperation with Professor Dreyer, describes his investigations and observations on the effect of blood-letting in actively immunised rabbits on the agglutinating power of the blood. The immunisation was accomplished by injecting 1 c.c. of sterilised standard culture of typhoid bacillus, paratyphoid bacillus, or bacillus coli communis into the peritoneal cavity. A large quantity (10 litres) of the culture was prepared in order to ensure regularity in the agglutinability of the bacilli, seeing that portions of this standard culture were used in the subsequent agglutination tests. In such tests a macroscopic method was adopted. 4 c.c. of blood were taken from the ear of an immunised rabbit on successive days. The sera having been separated were placed in order of withdrawal into a series of sterilised tubes (11 × 70 mm.) made of glass and arranged on a stand. The quantity of serum put in each tube was varied according to the dilution required. 0·85 per cent. NaCl was used as a diluent, and this along with the sera was added to 1·5 c.c. culture, to make a total of 2·5 c.c. in each tube. A standard tube was taken and the dilution so adjusted that the deposit was just seen by the naked eye. By comparing the tube contents and noting the dilutions, the agglutinating power of the sera of successive days was found, and the fluctuations recorded in the form of a curve.

Schroeder found that after immunisation the blood serum of a rabbit exhibited an agglutinating power which varied slightly from day to day; in other words, a natural curve of agglutination was produced on recording results graphically. By means of a large number of similar observations he drew up a formula by means of which any particular curve of agglutination could be calculated. In each case the readings were checked by the formula, and the results found to coincide.

Bleeding of the rabbits was usually done during a rapid fall of the curve—i.e., in the third phase (see Chart I.). 25 c.c. of blood were drawn off 24 hours after the maximum rise of immunisation was reached. It was known by the formula what the curve would have been independent of bleeding, and thus the effect of the loss of blood could be observed. For the first couple of days after this the curve continued to fall, but not to the same extent as the calculated value; thus there was some checking of the loss of agglutinins. After this there was a sharp rise in the curve, reaching a maximum, and then a gradual fall. During the fall 25 c.c. of blood were again removed, and in 24 hours another sharp rise was noted, followed by a more gradual fall. On repeated bleedings the period elapsing between loss of blood and rise of curve was less, and the subsequent fall more gradual.

Schroeder then describes the effect of bleeding during the rise of the curve. 25 c.c. of blood were withdrawn on the seventh day after immunisation. The rise continued for two days and the fall commenced. The curves were not as regular as the previous ones. The conclusions he draws from his observations are as follows: (1) Blood-letting in the fall is most frequently followed by a further fall, and afterwards by a rise which is often very considerable; (2) repeated blood-lettings each produce similar oscillations; (3) after each blood-letting there is a considerable reproduction of agglutinins; and (4) bleeding in the second phase (i.e., sharp rise) does not apparently affect the rise, which is continued immediately after and with little interruption.

Similar investigations were continued on persons suffering from typhoid fever. Rises and falls in the agglutinating power of the blood were found to occur, as in immunised rabbits. Then bleeding typhoid patients was tried. 150 to 200 c.c. of blood were removed at a time, and the results

[1] Enud Schroeder: Om Aareladningens Indflydelse paa Blodets Agglutinin-Holdighed. Kbh., 1909.

were very similar to those arrived at in the experiments on rabbits (see Chart II.).

Several observers have attempted to discover the effect of intestinal hæmorrhage in typhoid fever, but apparently without success. No doubt the reason of this was that so few cases under observation happened to have hæmorrhage. Courmont[2] describes five cases; they all, unfortunately, died before any reaction could be found. Jorgensens[3] describes a case of this kind giving a marked rise in the curve during the height of the fever, and he therefore attributes it to the effect of the hæmorrhage on the agglutinating power of the blood. Another case is noted by Fraenkel u Otto and by Lentz and Leube.

Schroeder remarks that it is probable that intestinal hæmorrhage in typhoid increases the power of agglutination of the blood; and whilst it may have a favourable influence on the progress of recovery of the patient, at the same time it must be borne in mind that such hæmorrhage may be very considerable and often fatal.

CHART 1.

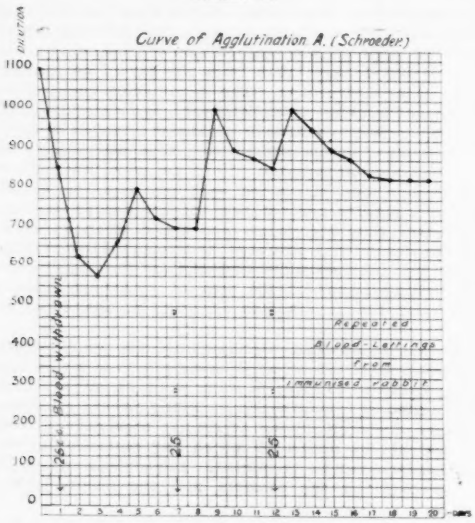
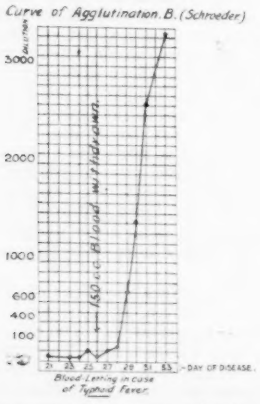


CHART 2.



The above work suggested a new and more extensive investigation of the effect of intestinal hæmorrhage in the human subject suffering from typhoid fever. Such hæmorrhage is undoubtedly a sign that the disease is in an advanced stage, and, moreover, that it is of a serious type. The bleeding is, of course, due to the position of the ulcers with regard to the larger arteries supplying the intestinal wall. Vessels are eroded and hæmorrhage is produced. The great dangers of this accident are (1) perforation of the bowel, almost always fatal; and (2) loss of a quantity of blood too great for the patient to withstand in this weak condition.

[2] La Courbe Agglutinante chez les Typhiques. Revue de Médecine, p. 745, 1897; p. 317, 1900.
[3] Svingninger i Blodets Agglutinerende. Evne ved Febris typhoidea, Kbh. 1904.

Whilst bleeding is recognised as a grave sign in many cases, it must be admitted on referring to these investigations that a great effort is made by the organism to balance this danger. The agglutinating power of the blood is increased after hæmorrhage to a remarkable degree, thus giving the body a much better chance of coping with the advancing disease. What appears to be a bad sign, then, may often prove to be a good one, and may turn the scale and save the life of the patient. Some of the cases graphically described by curves show very strikingly the truth of this statement. 24 hours after bleeding, the curve of agglutination is well up and the temperature down, with the commencement of recovery of the patient. As mentioned above, Schroeder describes a series of cases in which typhoid patients were bled at intervals to the extent of 200 c.c. each time. Almost without exception he finds a fall in the curve of agglutination for the first 48 hours after the blood-letting, and then a sharp rise, due to the effect of the hæmorrhage on the formation of agglutinins. In the present investigations such a fall preceding the rise has not been found. Blood was taken to be tested 24 hours after the hæmorrhage, and without exception showed great increase in agglutinating power. This apparent difference may be due to the fact that very often bleeding takes place in the intestine, and the blood is retained for a day or a couple of days, and so is not noticed at the time it occurs. As a control several cases of hæmorrhage in patients other than typhoid were observed. In none did the blood give any agglutinating reaction at all, either to typhoid bacilli, paratyphoid bacilli, or B. coli communis.

The quantity of blood lost does not appear to bear any proportion to the quantity of agglutinins formed in the blood. A comparatively small amount, say 5 or 6 oz., gives rise to a large increase in the agglutinating power of the blood. In most cases a blood count and an estimation of the percentage of hæmoglobin were done before and after hæmorrhage, but no change other than that observed in ordinary hæmorrhage was found.

The results obtained in the 14 cases to be described prove beyond doubt that hæmorrhage in typhoid fever produces by some means or other an increased formation of agglutinins. Especially is this phenomenon made clear in cases where the day before hæmorrhage occurs samples of the blood serum will not clump either typhoid bacilli, paratyphoid bacilli, or B. coli communis, and yet 24 hours after the hæmorrhage clumping by blood serum taken now in the same dilution (i.e., 1 in 10) takes place immediately. And, moreover, the serum will stand well diluting before it fails to produce agglutination.

The death-rate in cases of typhoid fever where intestinal hæmorrhage has occurred has been worked out by several observers. It was found to be very high in most cases. Of the amount of hæmorrhage no classification was made, nor was any allowance given for the cause or time of death. It is advisable in making statistics of this kind to divide the cases into, say, two divisions, the one group being cases where the bleeding amounted to 10 oz. and under, and the other group cases of over 10 oz. Those in which death ensued within twenty-four hours after loss of blood may with justice be excluded; and deaths from such an accident as perforation of the gut should not be included in the death-rate.

The following figures give the number of cases of intestinal

TABLE I.—*Cases of Intestinal Hæmorrhage in Monsall Fever Hospital, Manchester.*

Year.	10 oz. and under.		Over 10 oz.*	
	Cases.	Deaths.	Cases.	Deaths.
1906	10	2	14	9
1907	11	2	5	1
1908	14	1	9	5
1909	23	6	10	7
1910	24	5	4	2
Total	82	16	42	24
Percentage of deaths	19·5		57·1	

* The average loss of blood per patient was 41 oz.

hæmorrhage in typhoid and the number of deaths which have occurred at Monsall Fever Hospital, Manchester, during the last five years 1906-1910, uncorrected as regards cause and time of death. The division into two parts, however, has been adopted.

Even after this simple division of the quantities, a death-rate of 19·5 per cent. is by no means a high one when it is taken into account that all such cases must be severe ones. And the figure 57·1 per cent. is not great considering that the average loss of blood per case was 41 oz.

This table should be compared with the figures to follow, which represent the total number of typhoid cases in the hospital in years 1906-1910 with the percentage of deaths.

TABLE II.—*Total Number of Typhoid Cases in Monsall Fever Hospital, 1906-10.*

Year.	Cases.	Percentage of deaths.
1906	243	18·1
1907	146	10·2
1908	201	16·8
1909	236	16·9
1910	237	16·3

Average percentage of deaths = 15·6.

The following figures no doubt give a truer idea of the death-rate in hæmorrhage cases.

Of a total of 16 deaths in the first part of Table I. (10 oz. and under) 8 were due to perforation of the intestine. If these 8 cases are eliminated there now remain 8 deaths in 74 cases, giving a percentage of 10·8, which is extremely low. In the other part of the same table (over 10 oz.) 14 of the 24 patients died within 24 hours, thereby not allowing time for the increased formation of agglutinins to take effect. This leaves 10 fatal cases out of 28, giving a percentage of 35·7.

These statistics worked out for the past five years, and thus dealing with a large number of cases, must represent fairly accurately the true state of affairs, and it may be taken for granted that loss of blood in typhoid fever, especially in quantities of 10 ounces and under, is beneficial, and the good done more often than not outweighs the severity of the disease on the other side of the balance.

Nothnagel[4] gives the following statistics of hæmorrhage cases. From 20 to 30 per cent. of those attacked die. Greissinger placed the figure at 31·2 per cent., Liebermeister at 38·6 per cent, and Homolle at 43·3 per cent. Curschmann, the author of the volume on Typhoid and Typhus, gives the figure 38·2 per cent. for Leipsic. For Hamburg he gives 20·9 per cent. in 1886, and as low as 11·6 per cent. in 1887. He also states that he himself has observed 50 successive cases where two deaths only occurred. Graves[5] and Trousseau[6] take the view that hæmorrhage is not a serious but rather a favourable occurrence. The latter supports his opinion by quoting a large number of cases.

The present investigations have been carried out for a period of about a year. As large a number of cases as possible have been investigated so as to include the maximum number of cases of intestinal hæmorrhage. The method adopted was as follows. As a rule a sample of blood was taken from the patient's finger soon after admission in a small sterile glass tube, which was immediately sealed. The microscopic method was used, as it proved to be a convenient and reliable one. The serum was separated from the blood by centrifugalisation, and measured out on to a clean slide by means of a small sterilised platinum loop (Delépine's method) according to the proportion required. A 15 hours old broth culture was used for each observation, and quantities measured in loopfuls as before. The dilutions were made with ordinary sterile peptonised broth, and the same means of measuring it adopted. When the required dilution was obtained a loopful of the mixture of serum, culture, and diluent was placed on a sterile cover-slip and examined under the microscope as a hanging drop preparation. Various dilutions were tried in each case until a point was reached such that *no clumping whatever* took place in half-an-hour. These points of *no clumping* with minimum dilution are the ones registered on the affixed charts, of which two only are here reproduced through lack of space. (Charts III. and IV.) The bacilli in the central part of the drop are the ones to observe, as there is always a certain amount of accumulation of bacilli at the edges which must not be taken into account. Each separate dilution is, of course, a fresh experiment on a separate slide. The same strain of typhoid bacilli was used in the observations on the same case, so as to exhibit uniformity in agglutination, and, moreover, the culture on agar from which the broth cultures were made was as near as possible a month old. It should be noted here that newly isolated typhoid bacilli and also those which have been in use for six months or more lose their power of clumping. Samples of blood were examined every other day, and although only 14 cases had hæmorrhage, a large number of cases were under observation the whole time; it is obvious, therefore, that a great amount of work has been done which does not appear in this paper.

It is impossible to tell whether any particular case is likely to have hæmorrhage or not. From the notes made curves of agglutination were drawn and two of them are here given. The cases are briefly described with a few remarks on each. A copy of the temperature chart is included in the two illustrations.

CHART 3.

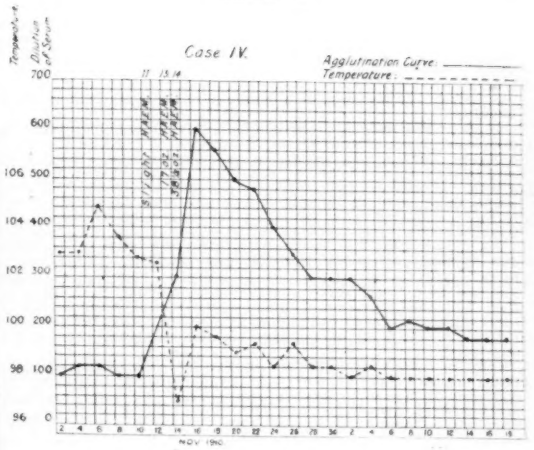
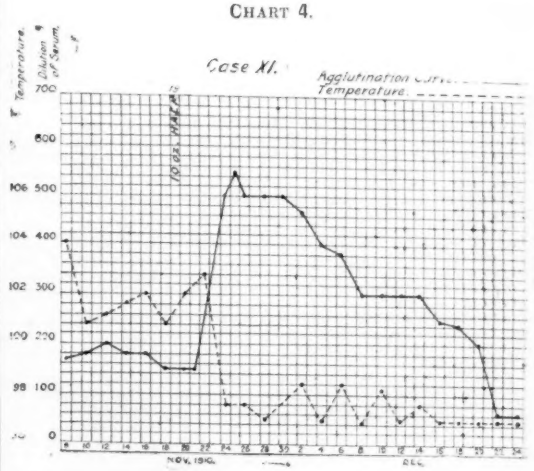


CHART 4.



In conclusion, these cases prove that intestinal hæmorrhage gives rise to an increased formation of agglutinins in the blood lasting for a short time, which may help to tide the patient safely over a dangerous period. As a result of these investigations it is recommended that, in many toxic

[4] Nothnagel's Encyclopædia of Practical Medicine, Typhoid and Typhus Fevers, by Dr. H. Curschmann, p. 224.
[5] Clinical Lectures, 1848, vol. i.
[6] Clinical Medicine, translated by Kunzmann, vol. i., p. 238.

cases of typhoid fever, and more especially in those in which the blood gives a poor agglutination reaction, phlebotomy to the extent of about 10 oz. (according to the physical condition of the patient) be tried as a treatment. It would in all probability give excellent results in many cases, as it would be without the accompanying dangers of intestinal hæmorrhage.

A Few Notes on the Cases of Hæmorrhage investigated.

CASE 1.—A male, aged 20, admitted April 20th, 1910—tenth day of disease. General condition fair; tongue dry and furred; abdomen, no pain, but tenderness on palpation; spleen enlarged; heart-sounds normal; bronchitis present; and a large number of rose spots discernible. Hæmorrhage: April 12th, 6 oz.; 13th, 2 oz.; May 29th, 6 oz.

On May 11th there was a relapse and an accompanying rise of temperature. The temperature was down on May 20th and remained so until the discharge of the patient at the end of June. A good recovery resulted. The curve of agglutination first shows a slight rise and fall before the loss of blood. After this a sharp rise and a very gradual fall, followed by a big sharp rise and again by a more gradual fall. After the second rise the temperature shows a continual fall. Dilution before hæmorrhage, 1 in 250; after hæmorrhage it rose to 1 in 1700.

CASE 2.—A male, age 29, admitted April 16th, 1910—twelfth day of disease. General condition fair; tongue furred; abdomen distended; spleen and liver enlarged; heart-sounds weak; bronchitis and rose spots present. Hæmorrhage: April 23rd, 10 oz. The curve shows a rise and a fall before hæmorrhage, after which comes a big sharp rise, with a fall of the temperature. Dilution before hæmorrhage, 1 in 150; after hæmorrhage, 1 in 550. The patient, who in the early part of the disease was in a very critical condition, made a very good recovery.

CASE 3.—A male, aged 19, admitted April 13th, 1910—fourteenth day of disease. General condition bad, tongue furred; abdomen slightly distended; spleen not enlarged; heart-sounds weak; lungs normal; and a few rose spots to be seen. Hæmorrhage: April 22nd, 8 oz.; 23rd, 30 oz.; 28th and May 1st, slight old hæmorrhage. Here again is seen the sharp rise 24 hours after the loss of blood. In this case there was *absolutely no agglutination* reaction whatever for 10 days before the hæmorrhage, in half an hour, with a dilution of 1 in 10, neither with typhoid bacilli, paratyphoid bacilli, nor B. coli communis. Dilution after hæmorrhage, 1 in 600. The patient's life was in the balance for 10 days before the bleeding, after which he made a slow but very good recovery.

CASE 4.—A female, aged 22, admitted Nov. 2nd, 1910—seventh day of disease. General condition bad; tongue furred and white; abdomen distended, painful, and tender; spleen enlarged; heart-sounds weak; respirations rapid; bronchitis; rose spots. Hæmorrhage: Nov. 11th, a little old hæmorrhage; 13th, 17 oz. old hæmorrhage and 6 oz. fresh hæmorrhage; 14th, 16, 7½, 4, 2, 2, and 1 oz. fresh hæmorrhage. This patient lost about 60 oz. of blood and yet made a good recovery. The temperature remained below 100° F. after hæmorrhage. (See Chart III.)

CASE 5.—A male, aged 21, admitted April 27th, 1910—twenty-fourth day of disease. General condition bad, patient delirious; tongue furred; abdomen normal; spleen not palpable; heart-sounds normal; lungs normal; no rose spots. Hæmorrhage: May 7th, 2 oz.; June 5th, 2 oz. The curve does not show any sharp rises, but there is evidently some reaction to even small losses of blood. Dilution before hæmorrhage, 1 in 150. After hæmorrhage, 1 in 280. The patient made a good recovery.

CASE 6.—A male, aged 34, admitted May 3rd, 1910. General condition poor; tongue dry, brown, and cracked; abdomen normal; spleen much enlarged; heart-sounds normal; lungs normal; numerous rose spots. Hæmorrhage: May 12th, 7 oz.; 15th, 5 oz.; 24th, 2 oz. A very substantial rise is here noted, a further short rise, and then a fall. Dilution before hæmorrhage, 1 in 400; after hæmorrhage, 1 in 1100. The patient was in a very bad condition, but made a good recovery.

CASE 7.—A male, aged 22, admitted May 10th, 1910—sixteenth day of disease. General condition very bad; tongue dry and brown; abdomen distended and tender; spleen not enlarged; heart-sounds weak; pulse dicrotic; bronchitis and rose spots. Hæmorrhage: May 12th, 30 oz., 13th, 25 oz. The patient died on May 13th, evidently from loss of blood. The agglutinin increase was, however, already apparent, and had the anæmia produced by the hæmorrhage been overcome the patient might have recovered. Dilution before hæmorrhage, 1 in 300; after hæmorrhage, 1 in 900.

CASE 8.—A male, aged 39. Admitted July 15th, 1910—twentieth day of disease. General condition very bad; tongue furred; abdomen distended; spleen not enlarged; heart-sounds weak; lungs—bronchitis and rapid respirations; rose spots. Hæmorrhage: July 16th, 12 oz.; 17th, 9 oz.; 18th, 1 oz.; 19th and 20th, slight old hæmorrhage. This patient died from perforation of the intestine. Dilution before hæmorrhage, 1 in 250; after hæmorrhage, 1 in 400.

CASE 9.—A male, aged 27, admitted July 2nd, 1910—seventeenth day of disease. General condition poor; tongue furred; spleen palpable; abdomen normal; heart-sounds weak; no rose spots. Hæmorrhage: July 13th, 14 oz.; 14th, 18 oz. This patient died on July 21st, 1910. The reaction occurred as shown by dilutions below, but he did not seem to rally from the loss of blood. On admission and for ten days following this the agglutination reaction was negative to typhoid bacilli, paratyphoid bacilli, and B. coli communis. The loss of blood produced the formation of agglutinins. Dilution after hæmorrhage 1 in 500.

CASE 10.—A male, aged 20, admitted Nov. 15th, 1910—nineteenth day of disease. General condition poor; tongue dry and furred; abdomen, no distension; spleen very large; heart-sounds weak; bronchitis; a large number of rose spots. Hæmorrhage: Nov. 19th, 2 oz.; 27th, 5 oz. and clots; 28th, some old hæmorrhage; 30th, 1 oz. The relation of the curve of agglutination and the temperature curve should here be noted. There is a gradual fall of the latter with the rise of the former. Dilution before hæmorrhage, 1 in 50; after hæmorrhage, 1 in 500. The patient progressed extremely well.

CASE 11.—A male, aged 34, admitted Nov. 6th, 1910—ninth day of disease. General condition poor; tongue dry and furred; abdomen distended; spleen not enlarged; heart-sounds weak; lungs normal; no rose spots. Hæmorrhage: Nov. 21st, 11 oz.; 22nd, clots. Here, again, may be noted the rise of the agglutination curve and the fall in the temperature. The hæmorrhage occurred, as shown, during the natural fall of the agglutinin curve. The patient made a very good recovery. (See Chart IV.)

CASE 12.—A male, aged 51, admitted Dec. 22nd, 1910—twenty-sixth day of disease. General condition poor; tongue dirty; abdomen normal; spleen enlarged; heart-sounds weak; bronchitis; no rose spots. Hæmorrhage: Dec. 28th and 29th, and Jan. 2nd, 3rd, 6th, 7th, and 8th, small clots; 11th, 7 oz.; 14th, 5 oz.; 17th, 10 oz.; 18th, 8 oz. The curves speak for themselves and show well the progressive recovery with the rise in the power of agglutination. Dilution before hæmorrhage, 1 in 50; after hæmorrhage, 1 in 650. The patient made a good recovery.

CASE 13.—A male, aged 29, admitted Nov. 17th, 1911—eighth day of disease. General condition fair; tongue clean and moist; abdomen, no distension; spleen easily palpable; heart-sounds normal; lungs normal; no rose spots. Hæmorrhage: Nov. 26th, clots; 25th, 8 oz. There was a big sharp rise after the 8 oz. and then a gradual fall. Dilution before hæmorrhage, 1 in 50; after hæmorrhage, 1 in 540. The temperature commenced to come down after the hæmorrhage. The patient recovered.

CASE 14.—A male, aged 20, admitted Feb. 14th, 1911—fifteenth day of disease. General condition fair, wanders at times; tongue dry; abdomen normal; spleen not enlarged; heart sounds weak; pulse dicrotic; bronchitis; no rose spots; deafness. Hæmorrhage: Feb. 18th, 8 oz.; 19th, 5 oz.; 21st, clots; 23rd, slight hæmorrhage; 24th, 2 oz.; 25th, clots; 26th, slight hæmorrhage. In the chart of this case rises and falls are observed after the first hæmorrhages, on new ones occurring. Dilution before hæmorrhage, 1 in 100; after hæmorrhage, 1 in 650. The patient was in excellent health when discharged.

Manchester.

ACUTE MIDDLE-EAR AND MASTOID INFLAMMATIONS:

THE RELATIONS OF ACTIVE AUTO-INTOXICATIONS.[1]

BY SARGENT F. SNOW, M.D.,

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IN the study of a diseased condition we are doubly armed if we have a clear conception of its determining cause. *Knowing* the determining cause and *seeing* easily the local manifestation puts effective weapons in our hands, so that we may attack the trouble from two ways. A double leverage like this is very valuable when we have under treatment acute affections that are liable to develop and extend into vital regions.

Acute middle-ear and mastoid inflammations are well within the list of diseases that call for serious thought, and a suggestion or plan of treatment that will give us increased power over these conditions I am sure will be welcomed by all.

For years specialists have studied and discussed the local manifestations of mastoiditis and their calls for relief, to the end that we now have splendidly developed and effective plans for local treatment. In fact, mastoid operative technique is so perfected by experienced operators that but little concern need be felt for their cases, and perhaps it matters little with these operators whether the etiology of the trouble is considered or not—the patient is quite sure of ultimate recovery from the blood-letting and good drainage they obtain.

The question I would put forward now is whether we cannot modify the danger and cut short the duration of the trouble by working at both the cause and the effect—in other words, working from both ends towards the middle, treating the fundamental cause of the inflammation as vigorously as we treat its results.

Previous to 1909 I was content to treat my acute mastoid cases locally, not giving much attention to the constitutional state, except perhaps a perfunctory order for a cathartic at the beginning of treatment. A closer study of late into the causes of inflammation of the head membranes has given me a different view-point, and I am happy now in the thought that I am much better equipped for a battle against these inflammations.

The whole question of local congestion revolves around, and rests upon, the state of the glandular activities. If the antibodies, nature's army of opsonins, are in normal quantities and in normal activity they fight down and keep under subjection bacteria that are always ready somewhere in our economy for pernicious development. A basic idea in medical philosophy of long ago was that nature provided man with defensive agencies to combat disease. Sir Almroth Wright's development of the opsonic theory and his research

[1] A paper read before the American Otological Society at the Forty-fourth Annual Meeting, Atlantic City, New Jersey, June 26th and 27th, 1911.

showing that the blood serum contains protective substances that act upon pathogenic bacteria add further proof. Metchnikoff has made plain the importance of the protective body cells against micro-parasites. The researches of Ehrlich, Brieger, and others have shown the relations between antigens and antibodies. Hektoen of Chicago[2] locates the probable formation of antibodies as in the spleen and other lymphoid structures, all showing that medical science is rapidly unfolding important truths.

The presence of bacteria *per se* is not sufficient to cause acute inflammations. The soil surrounding them must be favourable to their propagation; the cellular structures must be so modified in functional activity as to be no longer able to keep the pernicious bacteria under subjection.

It is well known that various bacteria may be present in the tympanic cavity without exciting inflammation until the conditions of the secretions and tissues are favourable to their rapid propagation. Those conditions favourable to the rapid propagation of dormant but vicious bacteria are, in my opinion, induced by an active auto-intoxication or crisis of elimination. Membrane congestions, in the author's opinion, with few exceptions, are practically autotoxic expressions; these autotoxic expressions come with more or less periodic regularity, and any organ or sinus covered or lined with a membrane is in danger.

Closer observations on acute pharyngeal, nasal sinus, middle-ear and mastoid inflammations astound me at the invariable relation evident between those inflammations and an active autotoxic state of the system. Frequently we find that there have been weekly evidences that they were self-poisoned—evidences made plain by digestive disturbances or recurring head colds.

Each case may not show all the symptoms of this etiological factor, but the skilled observer will detect some of them. The local signs of auto-intoxication depend largely upon the individual. Sometimes the complexion is perfect, but the eyes or posterior third of the tongue will give the evidences. Not everyone will show a tongue coated to the tip, but he will show some of the other well-marked principal symptoms. By drawing down the lids of the eye his conjunctiva will be found of a yellowish cast, or his skin may be grey or ashen, his breath foul, or his tongue dry and reddened—all proving that the patient's system, from some cause or other, has accumulated a large load of enterotoxins. This load of poisons may be the result of several months of inactivity, constipation, and over-eating. It may be the result of recent dietary excesses, or from overstrain and exhaustion, causing poor action of the liver and digestive functions. Whatever the source, nature demands relief from the stored-up toxins.

Auto-intoxication has a multiplicity of causes, each one leading up to a time when the system can no longer tolerate its load of poisonous substances. The different organs and membranes of the body are forced to do, and will do, double eliminative work until some organ fails or flags in its function; then we have an acute inflammation in some part of the body from the faulty metabolism—an autotoxic crisis. This is the time when the cellular structures are so weak in their functional activity that germs are able to multiply with impunity.

Should the tonsils, accessory sinuses, or tympanic cavities be harbouring staphylococci, streptococci, or any variety of bacteria, these vicious trouble-producers are apt to be soon multiplying at a rapid rate, opposed by only a few weakened attenuated antibodies. The term "attenuated antibodies" is chosen advisedly, because for days, perhaps weeks, the blood secretions and tissues of the patient have been getting so surcharged with poisons absorbed from his own intestinal tract that his army of fighting antibodies, usually capable, have lost their strength in their efforts against his own auto-intoxication. He then becomes a prey to diseases from bacteria originating outside his body, some fulminating, acute, inflammatory process of varying virulency.

It seems to be largely an accident as to where this inflammation shall be located—determined, I assume, by the place in the body where vicious bacteria are most numerous, or causes for local congestion are most prominent. Should the Eustachian tube be closed by an autotoxic cold, should the nasal accessory sinuses be shut off from ventilation and drainage by a congestion of the nose, there is then just the condition proper for rapid development and suppurative processes with attendant consequences. When we see a marked autotoxic appearance in our patients we may expect soon an acute inflammation of some degree in some part of the body. According to Coombe,[3] it seems to depend upon the individual predisposition which organ or part will suffer. He says:—

> In one it will be the nervous system, in another the lungs, in a third the heart, &c. The gradual accumulation of these poisons in the organism will, at variable intervals, determine crises of elimination, according to the nature of the sufferer; at times a febrile access, at others a cutaneous outbreak, or an intestinal discharge; all of which leaves the patient weakened, but otherwise improved for a certain length of time, until a re-accumulation reproduces the same symptoms at necessarily varying intervals.

Let no mistake be made from this paper and the author construed as meaning that, as a rule, local surgical measures are contra-indicated. In fact, in acute mastoiditis surgical measures are indicated in nearly all the cases that reach the ear specialist. It does not follow, though, that the external mastoid operation will have to be performed in all cases showing tenderness and swelling over the mastoid region. Experience has shown that a very large percentage of such cases will recover with the drainage obtained by a free incision of the tympanic membrane, attic folds, and periosteum of the superior canal wall. The kind of operation and the amount of drainage necessary to obtain will depend largely upon the exigencies of the case. Acute middle-ear and mastoid inflammations are clearly of a dangerous, active, fulminating order, and the bacteria present are apt to be of such a virulent nature that constitutional measures alone are not safe to rely upon.

A point that the author would make in this paper is that there are certain alteratives that can cause the blood to become bacteriolytic; certain medicines that seem to act as antigens and induce the formation of more antibodies, or at least rehabilitate them with more antitoxic power. Any substance capable of inciting the formation of antibodies is an antigen. Mercury, iodine, the adrenal extractives, &c., seem to be in this class, and are hopeful adjuncts in the twentieth century fight against disease. Vaccine-therapy also holds out some hope, but the indications are not very encouraging in acute mastoid troubles. The author relies at present most upon mercury by the mouth in some form as a remedial agent.

Authorities seem to agree that antitoxic elements are produced in the lymphoid structures of the body, and also that mercury is our most efficient medicinal stimulant of systemic functions. Mercury, then, can very properly be called an antigen, and clinical experiences of my own would seem to prove that it surely has antigenic properties. Properly given, it appears to act as an antigen, stimulating the formation of antibodies to ward off and subdue disease.

As time develops, it is probable that our knowledge as to how to use these alteratives will improve. At present, I find myself prescribing calomel in 1/10 gr. doses, frequently repeated until a grain or a grain and a half have been given. Then after making sure that the bowels are sufficiently active, it is followed by a dose of castor oil or salines. This plan is repeated in two days, and sometimes the very next day if the first has not been satisfactory, and it is continued every second day until active symptoms are subsiding. It is possible that smaller doses, more frequently repeated, would be better for antigenic action. During convalescence, either following the internal or external mastoid operation, I prescribe calomel in good dosage at least every five days, not for its cathartic action alone, but for its double action as an intestinal cleanser, glandular stimulant, and corrective for the whole system.

Since adopting this more vigorous plan of constitutional treatment, and attacking the cause of acute mastoiditis as promptly and thoroughly as I do the effect, I find that recovery is made in at least one-half the time and with one-third the effort, compared with what obtained under my former plan of using practically only local treatment.

Syracuse, N.Y.

[2] Transactions of the last Congress of American Physicians and Surgeons, p. 10.

[3] Auto-intoxication, p. 128.

CHILDREN'S HOME AT EXETER.—The Exeter board of guardians has submitted for the approval of the Local Government Board plans for the erection of a children's home to accommodate 74 children (30 girls and 44 boys) at an estimated cost of £6500.

THE OPHTHALMO-REACTION OF CALMETTE IN THE EARLY DIAGNOSIS OF PHTHISIS.

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WHILE resident medical officer at the Royal Hospital for Diseases of the Chest I had the opportunity of studying the effects of Calmette's reaction on patients exhibiting various stages of pulmonary tuberculosis. I think it may be of some interest to bring these cases before the profession.

The solution of tuberculin which was employed consisted of glycerine-free desiccated tuberculin of strength 0·1 per cent. prepared from Koch's old tuberculin manufactured by Farbwerke vorm Meister Lucius and Brüning. One to two drops of this solution are dropped into one eye of the patient near the inner canthus. In the meanwhile the lower lid is drawn down by means of the finger, which is kept there for a minute or so to ensure absorption; otherwise it is inclined to be squeezed out, as the patient naturally closes his eye. In *all* cases before the drop is inserted the eye should be carefully examined for any sign of disease, old-standing or recent, in order to avoid any risk of serious inflammation. Unless the eye is to all appearances free from disease no tuberculin should be placed in it.

The resulting inflammation differs in different individuals, both in time of onset and in the intensity, irrespective of the amount of the involvement of the lungs. In my experience some cases have shown definite reaction as early as three hours after the application of the test; on the other hand, some patients have not shown any reaction until as late as 36 to 40 hours after the test was applied, but in the majority of cases the maximum reaction is obtained in about 12 hours.

The reaction produced may consist of slight conjunctival injection, of marked injection of the whole conjunctiva, both ocular and palpebral, or of marked injection with a mucopurulent discharge, and the patient experiences the usual symptoms of simple conjunctivitis, which entirely clears up in the course of three or four days. In one case, in which a stronger solution was used (1 per cent.), there was not only a marked conjunctival reaction but also an inflammatory condition of the surrounding tissues closely resembling that produced by erysipelas. As a rule, no treatment is required. If the patient complained much of the irritability of his eye the usual treatment for conjunctivitis was employed, but in my experience this was rarely required.

Some observers have recorded bilateral results; none of our cases have shown this. If Calmette's test has been applied to the eye of a patient with pulmonary tuberculosis and several weeks afterwards Koch's old tuberculin has been injected in the usual manner with a positive result, the same eye in some cases has been relit up by a secondary inflammatory reaction.

In some cases of early involvement of the lung no *physical signs whatsoever were discovered*, and the disease was only suspected on a history of hæmoptysis. These are the cases which I should like to emphasise, and in which Calmette's reaction came to our aid and proved to be of the greatest value, the diagnosis being confirmed later by the appearance of crepitations at one or other apex. Thus a positive reaction may be said to carry great weight, and the patient would be wisely treated from the first as if physical signs had existed. One often sees a patient who complains of "bringing up blood," and in whom *no* physical signs can be found; hence it is difficult to say where the blood is coming from, but, as I have just stated, if Calmette's test is positive, in such a case it throws a grave suspicion on one or other lung.

A negative reaction by no means excludes phthisis, as the test may fail in some early cases, but more especially in old-standing ones, and those who are moribund. If Calmette's test proves negative, and pulmonary tuberculosis is suspected, then a second application has been made in from three to four weeks' time; on this occasion, however, to the other eye. If a reaction now takes place, in my opinion the patient is undoubtedly tubercular, but this was found only to be required in a few cases. I have seen two cases in which a third application was necessary before a positive reaction was obtained. Patients who have had the test applied have been seen some considerable time after, even as late as a year, and I have *never* had a case which showed any bad results whatever.

Summary.—Out of 225 cases in which Calmette's reaction has been tried, 100 were cases of pulmonary tuberculosis, which all reacted with the exception of seven. These seven were undoubted phthisis, the sputum containing tubercle bacilli. Five of these seven were in an advanced condition; two of these five gave a reaction to a subcutaneous injection of Koch's old tuberculin. The remaining two cases were early, and, as I have stated above, their sputum contained tubercle bacilli.

Of the remaining 125 cases which were not phthisis, and so did not give the test, 25 were cardiac cases of all varieties; 31 were simple bronchitis which cleared up; 20 were chronic bronchitis and emphysema; 23 were of various kinds—e.g., gastric ulcer, dyspepsia, enteric fever, empyemata, neuroses; 8 were bronchiectases; 6 were simple pleuritic effusion of pneumococcal origin; and 12 were cases of lobar pneumonia all of which resolved. In all these 125 cases tubercle bacilli, although repeatedly looked for, were found to be absent from the sputum, and also from the six cases of simple pleuritic effusion.

Conclusions.—1. A negative result by no means excluded pulmonary tuberculosis. Some very advanced cases failed to give a reaction. 2. I have *never* obtained a positive result except in true cases. 3. I never saw any bad results whatever from the use of the test as regards the eye. 4. If a patient in a suspicious case fails to give a reaction, then the test should be applied on three different occasions, with an interval between each application of from three to four weeks.

I am greatly indebted to the physicians of the hospital for their permission to publish these results. My thanks are also due to my colleague, Dr. A. J. B. Leckie, the house physician, for his kind assistance in compiling the cases.

Northfield, Birmingham.

RESEARCHES IN EPILEPSY.

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THE following investigations into the pathology of epilepsy were undertaken in connexion with the Maghull Epileptic Colony. They are varied in character and do not pretend to have followed any special scheme of line or study, though the majority of them have originated from an idea that the conditions in the intestinal tract have an influence upon the disease. Several are in the nature of repeat experiments upon the work of previous workers. A few have not been attempted before, as far as can be discovered, in connexion with epilepsy.

The work done falls into several categories, and a classification at the outset may tend to simplify subsequent description.

I. *Brain.* 1. Attempts to produce an epileptic animal. 2. The histology of an epileptic brain.
II. *Blood.* 1. The agglutination reaction of epileptic blood with bacillus coli. 2. The opsonic index of epileptic blood for bacillus coli.
III. *Urine.* 1. The urea-ammonia ratio. 2. The evidences of intestinal putrefaction that are afforded by chemical examination of the urine. 3. Correlation of these evidences with the actual putrefactive organisms present in epileptic fæces.
IV. *Fæces.* 1. A general bacteriological survey of the fæces of eight epileptics. 2. A special bacteriological survey of the fæces of an early case.

I. *Researches on the Brain.*

1. *Attempts to produce an epileptic animal.*—It is a noticeable feature of epileptic brains, always when they are seen during life upon the operating table and generally at a post-mortem examination immediately after death, that they present a markedly œdematous appearance to the eye. Closer examination reveals that the œdema lies under the dura mater, in the arachnoid and pia mater, the immediate coverings of the brain. The fluid lies along the vessels and in the interstices of the arachnoid tissue. When extensive, it forms a single sheet of fluid, more or less divided into little drops and ponds by the

divisions of fine fibrous tissue springing from the arachnoid and pia mater. Neither chemical nor bacteriological examination of this œdema fluid by any known method has afforded the discovery of the reason for its presence in epilepsy. It consists of normal cerebro-spinal fluid, and has all the properties and characters of that fluid. Some observers state that it contains more albuminous matter than is normal, and contend that this points to the fluid being the result of an inflammatory process.

It is possible that the mere presence of this fluid might conduce to a condition of the cortical nerve cells of the brain, which would make them peculiarly sensitive and prone to nerve discharges, or from their hypersensitiveness more exuberant in their reaction to stimuli. It was with a view to decide upon the importance of the mere presence of this fluid that the following experiments were undertaken. First, to produce this œdema experimentally in animals. Secondly, to determine whether this œdema, thus produced, was capable of producing epileptic convulsions.

It was found impossible to produce *permanent* œdema of the membranes by any method of fluid injection, and hence the answer to the second question still remains undecided. Altogether 37 rabbits were trephined, various fluids containing albumin were injected under the membranes in varying amount, and the bone was replaced. Natural albuminous fluids were used in the hope that they would be slowly absorbed, and that the artificial œdema produced would last long enough to produce effects. Blood sera and epileptic cerebro-spinal fluid were employed. Pig's serum saturated with common salt was used in the hope of attracting fluid from the vessels and increasing the œdema. Indol, which has always been looked upon as a convulsant, and which is normally manufactured in the intestinal canal by the bacillus coli, was also injected in a very dilute solution, which also contained albumin. Some observers have remarked that the stools of epileptics contain a toxic body of nature unknown, which has convulsant effects when injected into animals. An extract of epileptic fæces was therefore sterilised and injected into the brain membranes of three rabbits which all died, probably poisoned, but even they showed no convulsive seizures.

Table I. gives the results in tabular form:—

TABLE I.

—	Fluid used for injection.	Died operation.	Died afterwards.	Fits.	Recovered.
18	Pig's serum, 0·5, 1·0, 2·0 c.c.	3	2	0	13
5	Pig's serum saturated with NaCl.	0	2	0	3
3	Epileptic cerebro-spinal fluid.	0	0	0	3
8	Solution of indol in peptone water.	1	1	0	6
3	A sterilised extract of epileptic fæces.	2	1	0	0
37	—	6	6	0	25

It was found that 1 c.c. was the largest amount that could with safety be injected at one time, and with this amount great care had to be taken to carry out the injection very slowly, otherwise the animal died almost at once from cessation of respiration. Of the animals, six in number, which died after the operation, two succumbed to septic meningitis, one from a hæmorrhage into the brain through accidental puncture of a vessel, and three from symptoms of pressure from too large a dose. One rabbit injected with normal pig's serum had a spasm of some sort early next morning, but recovered entirely and showed no more symptoms.

Since these experiments were undertaken, six rabbits have been injected with different fluids to discover if it were possible to project the fluid along the vessels into the spaces in such a way that it might be retained. Ten other rabbits which had died from other causes were trephined post mortem, and attempts made to produce an œdema of the arachnoid and pia mater spaces. All these attempts ended in failure. It was found impossible to inject the fluid in any way that it might be retained.

2. *Histology of the epileptic brain.* (*a*) *Histology of the choroid plexuses.*—With this œdematous condition of the membranes the epileptic brain frequently presents an excess of fluid in the ventricles, which are sometimes distended and distorted out of all shape and size by the liquid they contain. Since this liquid originates in the secretory cells of the choroid plexuses, which lie in the lateral ventricles, it was considered worth while to examine these histologically to discover if any abnormality might be present accounting for this hypersecretion or transudation. In all, the choroid plexuses of seven epileptic brains were removed post mortem and placed in fixing fluid. Sections were made of various portions, which were compared with similar sections made from the choroid plexuses of normal brains. No abnormalities of structures were found.

(*b*) *Histology of the epileptic brain cortex.*—The histology of the cortical cells has been investigated by innumerable observers, and, except in very chronic cases, very little has been remarked. Turner examined the cortex for the purpose of investigating the conditions of the blood-vessels. He was able to discover minute clots in the arterioles, which he considered to be the cause of fits by the irritation of their presence. Nine epileptic brains have been sectionised and various parts of the cortex suitably stained. No clots such as Turner described have been found.

II. *Researches on the Blood.*

1. *The agglutination of B. coli communis.*—The toxic theory of epilepsy is one that has obtained great support in past times, and the favourite origin of the manufacture of the toxin has been placed in the intestinal canal. Very many and very various have been the attempts to discover a specific toxic body in epilepsy, and the minds of the greatest number of observers have been directed towards an investigation of the intestinal contents of epileptic patients. The bacillus coli has fallen under suspicion as the producer of nerve toxins, and it was for this reason that indol, which is formed by the B. coli from albuminous materials, was employed in some of the experiments on rabbits.

In all, the sera of 24 epileptics and six normal individuals were tested against four strains of B. coli communis. One strain came from a healthy stool, two were isolated from epileptics at the Colony, and the last was a laboratory specimen. Dilutions were carried up to 1 in 100, and were made 1 : 5, 1 : 10, 1 : 20, 1 : 25, 1 : 50, and 1 : 100. The first three dilutions were made first, and if any agglutination occurred in the 1 : 20 dilution within two hours the further dilutions were then proceeded with.

In three of the controls some slight agglutination occurred in two hours in the 1 : 20 dilution; in four of the epileptic sera a little more than a tendency to agglutinate was observable in the same period. In none of the 30 sera tested did agglutination take place in higher dilution than 1 : 20 in two hours.

2. *The opsonic index against B. coli.*—Fifteen epileptic sera were examined with the laboratory strain and against one strain of B. coli recovered from an epileptic stool. The control sera, single on one occasion only, plural in all others, were usually formed of a pool of three normal healthy sera. The results of this investigation were quite negative. The indices varied within normal limits, and on the whole the variations amongst the 15 epileptic sera were not so wide as between the individual sera of six healthy persons which were examined against one another.

III. *Researches on the Urine.*

1. *The urea-ammonia ratio* is of little value in itself as evidence of liver activity. It was used in this case, probably mistakenly, to gain some idea of the urea production. Urea is formed in greater part by the re-combination effected by the hepatic cells of ammonia and carbonic oxide, in the form in which it occurs in venous blood (ammonia carbamate). If the liver loses this power to any extent less urea will be manufactured, and ammonia in some form will escape into the blood. Too much ammonia or too little carbonic oxide, either of which conditions might occur through an error in metabolism, would lead to the same result. The alkalinity of the blood would be affected in consequence, though its restoration to normal would take place rapidly by the automatic readjustment of the phosphates. But such an alteration in reaction, though slight and transient, might be capable of affecting sensitive nerve-cells. The gravity of such an altered condition is heightened if the powerful

convulsant effects that ammonia can produce when injected experimentally into the circulation be remembered.

So far only six cases have been examined, but these have been investigated for some months. The 24 hours urine was collected in a covered receptacle containing some thymol to prevent decomposition. The urea was estimated in a Gordon-Little's ureometer. The ammonia determination was performed by three methods, and finally that of Schlössing was adopted as it was the simplest, and if attention were paid to uniformity of the surface-area of urine exposed the error as estimated by the control methods was very small.

It was found that the urea-ammonia ratio varied very much; at times it reached 100 or even more; at its lowest it became as low as ten, in one case 9·3. These numbers were obtained as per following example:—

$$\frac{\text{Amount of urea passed in 24 hours grammes}}{\text{Amount } NH_3 \text{ passed in 24 hours grammes}} = \frac{41{\cdot}77}{1{\cdot}081} = 38$$

The fits appear to have some correspondence with a low ratio, although occasionally there is a fit when a high ratio occurs. For example, the ratio was obtained daily in Case 1; it runs:—

CASE 1.—9·33 (1 fit), 12, 36, 82, 28 (1 fit), 38, 55 (1 fit).
CASE 2.—97 (1 fit), 10 (1 fit), 18, 154, 37 (1 fit), 36, 33, 35.
CASE 3.—134, 45·2, 24, 10 (2 fits), 18 (2 fits), 36, 45 (1 fit), 29 (1 fit).
CASE 4.—17 (1 fit), 48, 30, 28 (1 fit), 83.
CASE 5.—40, 40, 40, 40, 28 (1 fit).

These are weeks taken at random from the charts of daily investigations and speak for themselves. A larger series is required before anything definite may be said.

An attempt was made to obtain the first urine passed after a fit. This was difficult, for the patient so frequently micturated unconsciously. But eight specimens were eventually obtained from different epileptics and passed not more than four hours after the attack. The urea-ammonia ratio of these eight specimens runs: 7·6, 12, 5, 5·7, 3·0, 12, 38, and 15; low in every case.

2. *Evidences of intestinal putrefaction.*—This was investigated by means of Ehrlich's test. A solution of para-amido-benz-aldehyde in hydrochloric acid is added to urine, using 10 c.c. of urine and 1 c.c. of the test solution for uniformity. A deep-red cherry colour indicates putrefaction, and its degree is said to be measured by the depth of colour produced. Herter has found a correspondence between the amount of skatol in the fæces and the intensity of this reaction. The test was performed on each urine in the following way. Ten cubic centimetres of urine were measured into each of three test tubes, and 1 c.c. of the Ehrlich solution added. One tube was placed aside, the second was gently warmed, and the third rapidly raised to boiling-point.

The results were tabulated in four classes, indicating the production of colour in the cold, on gentle heat, on boiling, or only after boiling and standing some time. Twelve control urines of healthy individuals were first investigated. Of these, two only gave a reaction in the cold at once, seven a reaction on gentle heat being applied, and three a slight reaction on or after boiling. Twenty-three epileptic urines were examined. No urine gave an immediate reaction in the cold. Eight gave a reaction in the cold after standing from varying periods from half an hour to two hours; five gave a colour only after gentle heat. Four required to be boiled to obtain the test; the remaining six required to be boiled and allowed to stand for some hours before a definite cherry tinge appeared.

3. *Correlation of urinary and intestinal evidences.*—Many theories of epilepsy accuse the alimentary tract as the source of the disease. There is no doubt that intestinal irritation frequently precipitates an attack, and, on the other hand, that attention to bowel functions and diet has always some effect, and often a pronounced ameliorating influence, upon the number of attacks. The common cause of intestinal irritation proceeds from constipation and its consequences, and is due to the putrefactive products of retained excreta. The products chemically fall into a class of substances of which indol, phenol, and skatol are good examples. The body in protecting itself combines these bodies with sulphur to form sulphates, in which form they are comparatively harmless. Thus indol is converted into indoxyl-sulphate, and can be recognised as indican in the urine with its well-known blue colour. When thus converted the bodies are excreted by way of the urine and can there be estimated. Other sulphates appear normally in the urine, such simple salts as sodium and potassium sulphate. In the normal body the complex sulphates comprise a tenth of the total sulphates excreted.

In Table II. the total number of putrefactive organisms has been estimated in a gramme of fæces, and in another column the ratio of complex to total sulphates in the urine of the 24 hours previous to the motion. The putrefactive organisms are here estimated as B. aerogenes capsulatus, which is the anaerobic inhabitant of the lower intestine capable of attacking proteid material directly.

TABLE II.

Total putrefactive organisms.	Sulphate ratio.	Total putrefactive organisms.	Sulphate ratio.
1. 1000, not 10,000	1 : 5·7	5. 10,000	1 : 15·6
2. 10,000	1 : 10·3	6. 1000	1 : 14·8
3. 100,000	1 : 5·3	7. 10,000	1 : 11·8
4. 10,000	1 : 12·6	8. 1000	1 : 10·3

Herter and Smith have tried to show that fits run parallel with the ethereal sulphates of the urine. According to their investigations, the fit is preceded by a rise in the ratio, and this rise they suggest to be due to intestinal putrefaction. In the table above there seems to be no parallelism between the intestinal contents and the ethereal sulphates.

IV. *Researches on the Fæces.*

1. A complete bacteriological examination has been made in eight cases of epilepsy from Maghull. In each case as many various organisms as possible were isolated and tested upon various media—(1) to identify them; and (2) to examine their cultural and morphological characters. Special attention was paid—(1) to the strains of B. coli isolated; (2) to the numbers of putrefactive organisms present; (3) to the number of staphylococci; (4) to the number of streptococci; and (5) to the number of aerobic spore-bearing organisms.

All results were made comparable by the use of a routine method of dilution of the fæces. In each case a gramme of the stool was carefully weighed out and diluted with 99 c.c. of water, making a dilution of 1 in 100; 10 c.c. of this were transferred to another flask containing a further 90 c.c. of water, making a second dilution of 1 in 1000. This process was carried on until the final dilution was 1 in 100 million. 1 c.c. of this final dilution contained 100 millionth part of a gramme of fæces. 1 c.c. of each dilution was used for inoculating plates of neutral-red-lactose-agar, lactose-litmus-agar, gelatin, often ordinary agar. These were incubated aerobically and anaerobically, and the colonies were counted from day to day. Dilutions were also heated to 80° C. for 20 minutes to kill off all but spore-bearing bacilli, and milk tubes were inoculated from them.

To act as controls some 20 normal fæces have been examined in a similar fashion, so that comparisons might be made. It has been found impossible to adopt any standard of normality for healthy fæces. The variations that take place from day to day in the same individual and from one individual to another swing within wide limits. The only standard that appears to remain fairly fixed is relationship of the classes of organisms one to another.

The epileptic fæces examined have shown no striking points of divergence from the normal. The results of this work have been extremely disappointing, especially after the amount of time and labour that has been put into it.

2. *A special case.*—In May, 1909, a boy, aged 7, was seen, who suffered from *petit mal*. His history was as follows: He had always been a delicate child, and at the age of 3 years contracted a severe attack of gastro-enteritis, profuse diarrhœa with very offensive, slimy, and bloody stools. At this time he had a fit and remained unconscious for 24 hours. The fits recurred after the intestinal condition was relieved up to the age of 5, but they were few and far between. From May, 1907, to June, 1908, he had no fits, but they began again in this latter month. His mother noticed that his motions had become very offensive, and also that he cried out that he had pain in the abdomen before a fit came on.

Treatment with bromide had little effect. Grey powder gave no relief. His motions were examined bacteriologically and the condition was that of great diminution in the colon group of bacilli and a great rise in the putrefactive group. The stools were soft, gaseous, and extremely disagreeable to the nose. They were examined twice, and he was then taken into the Royal Southern Hospital, where he received lactic

acid bacilli in milk. The last two weeks he was in hospital he had no fits, and for a week after returning home he had none. The intestinal condition was entirely changed under the influence of suitable food, attention to the bowels, and the lactic acid bacilli. But the influence upon the fits was practically *nil*.

Conclusions.—It will be noticed that the results of these investigations are uniformly negative with one exception. There appears to be a relationship between the fit and a low urea-ammonia ratio.

Literature—1. Herter: Journal of Biological Chemistry, January, 1906. 2. Herter and Smith: New York Medical Journal, August and September, 1892. 3. Laplace: Semaine Médicale. 4. Turner, John: Brit. Med. Jour., March 3rd, 1906.

Liverpool.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

NOTE ON A CASE OF ACUTE ANTRUM OF HIGHMORE WITH EYE COMPLICATIONS.

BY JOHN R. FOSTER, F.R.C.S. EDIN.,
OPHTHALMIC AND AURAL SURGEON, CAMERON HOSPITAL, WEST HARTLEPOOL.

A WORKMAN was sent to me on June 30th of this year with the following history. Fourteen days prior to his visit to me he had a severe attack of influenza. On the day following the beginning of this illness he explained to me that he had very acute pain of a neuralgic character, confined to the left side of his face and head. Two days following the neuralgia he began to notice that the sight of the left eye was becoming dim, also that his sight was double; this latter feature he especially noticed on descending the stairs from his room. I found his condition as follows:—

The patient was a young man 22 years of age. From the position in which he sat, and the distortion of his face, it was evident that he suffered great pain. His left eye had a marked vertical squint, only the lower half of the cornea being visible. The pupil was dilated and sluggish to strong light, and it was under the circumstances difficult to estimate his vision accurately, but it appeared to be about 6/60. When I palpated between the eyeball and the inferior orbital wall there was a distinct swelling, irregular and firm, only slightly painful on pressure; there was also some œdema of the lower lid, which the patient explained was not so bad as it had been on the previous day. The fundus of the eye showed the edges of the optic disc blurred and the vessels distended and tortuous; I could not make out any difference in the level of the disc and the surrounding retina. With red and green glasses well-marked diplopia was shown, both horizontal and vertical in character, the vertical being the more marked.

The diagnosis rested, in my opinion, between tumour of the antrum and acute antrum. I punctured the antrum below the inferior turbinate and syringed out some pus with a very offensive smell. It appeared to me that the best thing under the circumstances was to make a good exploratory opening through the canine fossa. I did this and found nothing in the antrum except a small quantity of pus and some polypoidal mucous membrane. A gauze drain was inserted, and in a few days all symptoms disappeared.

West Hartlepool.

RUPTURE OF AN EMPYEMA INTO THE ŒSOPHAGUS.

BY WILLIAM A. BULLOUGH, M.SC., M.B., CH.B. VICT.

A GIRL, aged 16 months, was admitted to the Royal Albert Edward Infirmary and Dispensary, Wigan, on Feb. 8th, 1911. Her medical attendant had explored the chest and found pus. The child was in an extremely emaciated condition, and cried in a peculiar way that suggested extreme hunger. On exploring the left side of the chest some turbid fluid was withdrawn. A portion of rib was resected, but very little pus was found. The lung was contracted and although a number of adhesions were broken down, did not "come up" well. Next day she continually vomited the milk and other fluids which were got down her throat. At the first dressing it was noted that the discharge resembled curds of milk. Consequently the child was given a little milk to swallow, and thereupon a portion of it came through the wound. The quantity swallowed and the quantity coming through the wound were roughly measured and it was found that about half the milk escaped through the wound. On interrogating the parents it was elicited that the child had been continually vomiting her milk for a week prior to admission. We were of the opinion that it was a case of ruptured diverticulum of the œsophagus. However, the child died next day and we made a post-mortem examination.

Necropsy.—The left lung was contracted and firmly adherent to the posterior pleura. On opening the mediastinum a mass of adhesions was found between the œsophagus and the left pleura. An oval-shaped hole was found on the left side of the œsophagus about 3 inches above the diaphragmatic opening. The hole was three-quarters of an inch long and a quarter of an inch wide, the long axis being in the axis of the œsophagus. The edges of the hole looked as though it had existed for some little time, being nicely rounded off. No diverticulum was found.

The presumption is that an empyema had burst into the œsophagus, that the pus had been expectorated by the œsophagus and mouth, and that the child had died from starvation.

I am indebted to Dr. J. Blair for permission to record this case.

Wigan.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION.

Large Fibro-cystic Tumour of the Perineum.—Specimens.

A MEETING of this section was held on Oct. 5th, Dr. AMAND J. M. ROUTH, the President, being in the chair.

Mr. J. D. MALCOLM showed specimens and photographs of a remarkable case in which a tumour measuring 37½ inches in horizontal circumference hung from a woman's buttock to the level of her knees. Her age was 30; she had one child, aged 11 years, and six years before admission to the Samaritan Free Hospital she was under the care of an experienced surgeon who found a lax cyst to the left of the vagina and another behind the uterus. It was thought that there was a double vagina, and an incision was made into the lower swelling, but no pus and very little fluid escaped. A year later another surgeon of large experience found three tumours, one in the abdomen, one protruding from the vagina, and one bulging the buttock. After that time the patient did not consult any medical man from July, 1906, until April, 1911, when the buttock tumour had attained the enormous dimensions above mentioned. The anus was dragged out of place, and the finger, when inserted into the rectum, did not pass upwards into the body but downwards into the external mass, which had an area of resonance on its upper surface corresponding to the position of the lower bowel. There were also a tumour projecting from the vagina and an ill-defined growth in the abdomen. The removal of the new growths was obviously a very formidable procedure, but as there was no hope of relief except by operation the patient was told that the treatment would be very dangerous, and she still was anxious to have it carried out. There was a tumour in front of the peritoneum below the umbilicus, another behind the uterus, a third 7½ in. long projecting from the vagina, and the enormous mass of the buttock tumour. These all united in the anterior part of the pelvis on the left side, and they were removed by combined abdominal and perineal incisions, with the exception of a small part in the pelvis. After much fluid had drained from them the parts removed weighed 39½ pounds. Three of the tumours were soft very œdematous solids; the large buttock growth was partly soft solid and partly cystic. The

solid part of this latter growth seemed to consist of an invasion of the pelvic floor, which was expanded over a mass of large cysts filled but not distended by clear yellowish fluid. The operation was a very severe one and the patient died half an hour after she was put to bed. The remaining part of the growth was removed after death. It had a diameter of not more than 1 inch. It was free from the hollow viscera, but it was firmly fixed to the fascia covering the muscles of the anterior lateral wall of the pelvis. It was easily separated from these muscles, and when it was removed the ascending ramus of the left pubic bone and the obturator vessels and nerve were fully exposed. It was conjectured chiefly from the relations at this part that the tumour developed from fascial tissue. The ureters were dilated to a diameter of half an inch, and the kidneys and their pelves were also enlarged.

In reply, Mr. MALCOLM stated that in the account of the case prepared for printing he had noted the unfortunate fact that this patient had not offered every facility for the consideration of her case to one of the surgeons whom she consulted in 1905 and 1906 or to some other surgeon.

MEDICAL SOCIETY OF LONDON.

The Society and the General Practitioner.

A MEETING of this society was held on Oct. 9th, Dr. J. MITCHELL BRUCE, the President, being in the chair.

Dr. MITCHELL BRUCE, in delivering the presidential address, asked, Was it in the interest of the society that the general practitioner who came to its meetings should be receptive only—should he not be communicative also? At the meetings the general practitioner was furnished with material which he could put to practical tests. Did he return with a report of those trials? The registrar of the society had estimated the proportion of papers presented, and he had found that whilst Fellows of the society in general practice constituted one-third of its members, only 1 communication in 15 came from them—indeed, but four papers had been read before the society by the general practitioner during the last ten years. The President pleaded for a more equal participation in the work of the meetings; he thought that great advantages would be secured to medicine and surgery if a larger share in the work of the society were taken by the family doctor. He was of opinion that not only were certain aspects of disease best studied and best understood by the general practitioner, but that in some of its relations disease could be sufficiently studied and described by him alone, for it was not a question of the individual as a competent observer, but it was a question of his opportunities for observation. The President then stated some of the opportunities which, in his opinion, were especially enjoyed by the general practitioner of advancing the science of medicine and surgery.

Dr. LEONARD GUTHRIE read a paper on Recurrent Jaundice with Pyrexia, Splenomegaly, Anæmia, and Pigmentation of the Skin in a girl aged 11 years.

WEST LONDON MEDICO-CHIRURGICAL SOCIETY.—At the opening meeting of the thirtieth session of this society on Oct. 6th the in-coming President, Mr. W. McAdam Eccles, was inducted by the out-going President, Dr. Phineas S. Abraham. Mr. Eccles then presented Dr. Abraham with the "Keetley Medal," a medal in bronze founded in memory of the late Mr. C. B. Keetley, one of those who inaugurated the society in 1882. Mr. Eccles then read his presidential address on the Future of Surgery. After reviewing briefly some of the points which indicate the enormous advance that has been made in surgery during the past quarter of a century, Mr. Eccles showed that technical skill in operating was almost useless were it not that Lister had shown the way in which such skill need not be lost by the onset of sepsis. Even now heated debate may occur as to the precise methods for securing asepsis, but the one fact remains that the removal or exclusion from a wound of organisms is the essential to success. This it was that Lister taught the world. No nurse or dresser at the present day was fit to start the rudiments of surgical nursing or surgical practice unless she or he had grasped this fundamental point. Another circumstance which had led to the great advance of surgery, and would of necessity lead even more to its perfecting in the future, was the better training and higher skill of surgical nurses. Surgeons sometimes did not give due credit and praise for the assistance they received from good nurses. Many a case would succumb after the manipulations of the surgeon but for the watchful care of the nurse. Mr. Eccles said he was a strong upholder of a thorough training for nurses, and he believed that State registration must come, and that every nurse worthy of the name would be required to hold a certificate granted after examination subsequent to a three years' course in a hospital of not less than 100 beds with a resident medical officer; the future of surgery—if not of medicine—would demand it. While speaking of nursing, the question of surgical nursing homes or private surgical hospitals naturally came up. In the past these have not been what they might have been. In the future, if maintained for those who were able to afford them, they must improve with the advance of surgery. For the sake of the patient who submitted to the surgery of the future it was best that he should be removed from his home into better surroundings of cleanliness, light, air, and nursing. The ideal surgical nursing home for those who could afford to pay must be thoroughly good—not necessarily extravagant or ornate—furnished with what experience had shown to be desirable for success in operation and after-treatment. It would require to possess properly built and equipped theatres, after-treatment bedrooms, convalescent rooms and verandahs, lifts, bathrooms, an X ray and a pathological department, and sufficient ground around for a well-kept garden, and to be some distance from the centre of the town. This the surgery of the future would demand and have. For the middle-class patient also something better must be done, but he was not fully convinced as to what this should be. In the surgical wards of a large hospital a large proportion of the beds were filled by operation cases, and the surgeon in charge had his time and hands filled by operative work, and his teaching tended to become more and more on those diseases and injuries which required operative interference. Thus the surgeon was apt to neglect non-operative cases and the lessons to be learnt from them. The whole art and practice of surgery, in spite of its etymology, did not consist of operative manipulations, and it would be a serious thing for surgery if in the future its exponents did not remain versed in anatomical, pathological, and even purely medical knowledge. The general practitioner to-day was bound to be acquainted with much more of surgery than in the past, but he should not have his brain, as a student, loaded with the details of intricate operations. The day was approaching when the work and teaching in the out-patient rooms, wards, and theatres of the hospitals with medical schools would have to be revised and modelled on different lines if students were to be taught adequately. A number of conditions were making for increase of, and changes in, surgical practice as it affected the general practitioner. The multiplication of factories, the enormous amount of motor road traffic, and the provisions of the Compensation Act had greatly accentuated the importance of "accidents." The clauses of the National Insurance Bill were sadly wanting in any direct reference to the future of surgery. Operative treatment which would be needed for many thousands of persons was practically ignored. In fact, the Bill seemed to have been thought out on the lines of the medical and surgical practice of the middle of the last century, when potions and pills were the rule of the day. This neglect of the claims of surgery by public men could not do otherwise than lead the public to consider that surgery was of secondary importance. The enlightened general public would ere long demand that their medical attendant should be prepared to give no uncertain advice on surgical matters, and hence the great desirability of thoroughly practical teaching, dogmatic if necessary, but sound in fundamentals. The general practitioner was the medical man who after all was far more worthy of respect and honour than many a physician, surgeon, or specialist, but who perhaps but seldom receives his due meed of praise. It was to his acumen in diagnosis, to his promptness in realising the necessity for surgical interference, and to his ability to recognise when he should act or send for a surgeon, that to a very large extent the welfare of the patient and the future of surgery would

depend.—A vote of thanks to Mr. Eccles for his address was proposed by Mr. F. Swinford Edwards and seconded by Colonel E. M. Wilson, R.A.M.C., and carried with acclamation.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Oct. 6th, at which Dr. Leslie Durno, the new President, delivered an address on the Vagaries in Fashions of Treatment during the Past Quarter of a Century. He said that the birth of the science of biology was a great landmark in medical science and the foundation of gigantic changes in the fashions of treatment of disease. For from this dated the advent of scientific therapy and the ending of empiricism. Drugs were no longer the chief weapon in the management of disease, the great drawback being the frequent uncertainty of their action, the difficulty of estimating accurately their assumed effects, and that uncertain quantity—individual tolerance and idiosyncrasy. Now etiological factors, dietetic regulations, and physiological methods were engaging increasing attention in treatment. A continued and frenzied search was afloat for specific remedies, and earlier and more opportune recourse was had to surgical intervention in many disorders. There was no region of the body that could demonstrate this change in treatment so well as the abdomen, and it would seem that the surgeon had actually claimed this as his own private preserve. But Dr. Durno could not help thinking that the time had about arrived for a breathing interval and a shuffling of the cards between the surgeon and the physician. Scientific therapy had originated and had enhanced the art of medicine and materially augmented the resources of therapeutics. In 1893, after much careful clinical study, Behring introduced his antitoxin treatment of diphtheria, and probably in the whole history of medical science no discovery had surpassed this in therapeutic value. The success of antitoxin started off the fashion of serum-therapy treatment—soon to be followed by vaccine-therapy. As these methods of treatment, along with organo-therapy, were at the present time busily engaging the minds of the profession, they must wait until sufficient clinical experience had accumulated before they could ascribe to each fashion its proper value and place in therapeutics. The bursting of the coal-tar bomb, with its resulting clouds of derivatives of antiseptics, antipyretics, and analgesics, made it evident that there was money in this new drug fashion, and very soon manufacturing chemists took up the introduction of these synthetic products, employing physicians to experiment with them and publish their results as so-called contributions to medical science. This new fashion in pharmacy was responsible for the rooting out of the prescribing chemist, and the old chemist's shop had gradually become an emporium for the sale of products of large manufacturing chemists, the public treating themselves with drugs in the way suggested on the box or bottle; and, to a great extent, laziness or indifference on the part of the medical profession had fostered this now really serious state of affairs. It was absolutely bewildering to think of the numbers of new methods of treatment introduced into all branches of scientific medicine during the past quarter of a century, and at the same time it had been most pathetic to witness the melancholy and humble endings of most of them. The possibilities of therapeutics had been, and would be, greatly increased by the *science* of medicine, but something might be lost by the tendency of the present day to disregard the *art* of medicine.

ARMY AND NAVY MALE NURSES' COÖPERATION.—This excellent institution, of which Queen Alexandra is patron and Sir Frederick Treves president, was established four years ago for the purpose of finding employment for qualified male nurses discharged from the Navy and Army. The report for the year 1910–11, which was presented at the annual meeting of the coöperation in July, has now been reprinted for general circulation, and it shows most satisfactory progress. During the year under notice nearly 350 cases were nursed, an increase of 50 over the year 1909–10, and 42 nurses were kept in almost constant employment; while the receipts for the service of nurses amounted to nearly £3350, showing an increase of nearly £600. The offices of the Coöperation are at 47B, Welbeck-street, Cavendish-square, London, W.

Reviews and Notices of Books.

Funktionelle Diagnostik und Therapie der Erkrankungen des Herzens und der Gefässe. (*Functional Diagnosis and Treatment of Diseases of the Heart and Blood-vessels.*) Von Professor Dr. AUG. HOFFMANN, o. Mitglied der Akademie für Prakt. Medicin und Direktor der Medizinischen Klinik in Düsseldorf. With 109 figures and one coloured plate. Wiesbaden: J. F. Bergmann. 1911. Pp. 483. Price 12 marks.

IN few branches of clinical medicine have greater advances been made as a result of the application of scientific methods than in that dealing with diseases of the heart and blood-vessels. The relative accessibility of the essential organs of the circulation to methods of physical and instrumental examination, the fact that the main phenomena of the circulation are subject to known physical laws, and the importance of an efficient circulation to the adequate functional activity of other organs, are probably chiefly responsible for the large amount of research which has been done in the directions thus indicated within recent years. Perhaps the most important outcome of this work is that we are no longer satisfied with an anatomical diagnosis in morbid conditions of the heart and vessels, but require in addition to appraise the functional efficiency of the circulation as a whole in every patient, or, in other words, the degree of compensation he possesses for his disabilities. It is obvious that this functional diagnosis is the essential preliminary to rational and effective treatment.

This aspect of the diagnosis and treatment of diseases of the heart and blood-vessels is the one which is prominently emphasised in the important book by Professor Hoffmann now under review. He begins by describing in full detail the indications afforded by the patient's history and subjective symptoms, and then gives the methods of ordinary physical examination, including the modern applications of the Roentgen rays to this purpose, together with the significance of the information obtainable from these methods. The evidence from palpation and auscultation in regard to the functional efficiency of the heart is discussed in detail, and then the various graphic methods are described, together with the interpretation of their results. In this connexion a clear and well-illustrated account is given of Einthoven's string galvanometer and of its application to the record of electro-cardiograms. Illustrative tracings are shown, and the method of analysing them is explained. Among other instrumental methods the graphic recording of the heart-sounds is described. A careful and interesting analysis of recent work upon conditions of cardiac irregularity is included in this section. The methods employed to measure the working capacity of the heart—viz., by the sphygmobolometer of Sahli, by the plethysmograph, and the tacheograph—are described and illustrated.

After these general considerations the special diagnosis of abnormal conditions of the heart and blood-vessels is studied. The characteristic signs and symptoms of cardiac insufficiency are described under two headings, relative and absolute, the latter being applied to conditions in which there are signs of stress in the circulation, even at rest. The diagnosis of the various anatomical lesions of the myocardium, endocardium, and pericardium is reviewed, but in less detail than is common in English text-books, the reason being, as already mentioned, that Professor Hoffmann regards the question of the estimation of the degree of functional efficiency as of paramount importance. Diseases of the vessels and nervous disorders of the circulation are next considered, and here, again, the author devotes much

attention to the recognition of their effects upon the circulation as a whole rather than to their anatomical diagnosis. The subject of the functional treatment of the diseases of the heart and blood-vessels is dealt with fully. The general principles of treatment are explained, the uses of hydrotherapy and of electrical appliances are carefully examined, and the individual drugs employed to exert effects upon the heart and vessels are discussed. At the end of every section a long bibliography is appended.

We can strongly recommend this book as a scientific and suggestive work of reference. It summarises in admirable fashion the present state of our knowledge in regard to diseases of the circulatory system, and emphasises the importance of directing treatment to the patient's needs and not to his anatomical lesion.

The Practice of Surgery. By JAMES GREGORY MUMFORD, M.D., Visiting Surgeon to the Massachusetts General Hospital; Instructor in Surgery in the Harvard Medical School; Fellow of the American Surgical Association. With 692 illustrations. London: W. B. Saunders Company. 1910. Pp. 1015. Price 30*s.* net.

A MORE striking illustration of the present state of surgery could hardly be afforded than by the fact that a volume on "The Practice of Surgery" should commence with the abdomen (the first chapter dealing with appendicitis). There is no preliminary matter, no mention of the principles of surgery, no account of bacteriolcgy—in fact, nothing is mentioned, but the reader plunges straight into appendicitis. This arrangement has been adopted intentionally by the author, who has taken up surgical diseases mainly from the aspect of clinical surgery, and has discussed their importance and frequency so far as possible with due regard to a proper sequence. It is assumed that the reader has had a preliminary training in the subject, and he is here presented with surgery as it is seen in practice.

This work is written energetically and with a disregard for conventional methods. It contains very much that is good and also much with which we cannot agree. It is abundantly illustrated, and the illustrations have been for the most part chosen wisely and well drawn. Some subjects are more fully treated than others, but on the whole the general impression left by the book after perusal is favourable. But it might have been well to express the opinions a little less dogmatically, for the student may be led to think that there is nothing to be said on the other side, while all surgeons know how difficult it is to say with certainty that one course is right and all others are wrong. An interesting illustration is a reproduction of Hinckley's painting in the Boston Medical Library representing the first public demonstration of ether anæsthesia at the Massachusetts General Hospital in 1846.

A Treatise on Diseases of the Eye. By JOHN ELMER WEEKS, M.D. London: Henry Kimpton; Glasgow: Alexander Stenhouse. 1911. Pp. 944. Price 30*s.* net.

THE author of the present work is one of the most prominent ophthalmologists in New York, and his name is familiar all over the world in the designation of the Koch Weeks bacillus, which he discovered almost simultaneously with, and quite independently of, Koch, and of the complete life-history and pathogenicity of which he was the first and exhaustive investigator. The promise of his early work as a pathologist has been fulfilled in his development into one of the foremost of ophthalmic clinicians, and it is not surprising that Dr. Weeks should desire to give to the world some of his views on the problems which have occupied the greater part of his life. The form in which he has chosen to present them has its advantages and its drawbacks. Among the former are the opportunity afforded for a consistent general purview of the whole subject, and the width of the appeal made by a text-book as compared with isolated papers in journals and society transactions. Among the latter, the most serious drawback in the design of a formal text-book is that it precludes a due expansion of the discussion of particular problems at the expense of others which have occupied less of the author's attention. Probably Dr. Weeks had this disadvantage in mind when he called his book a treatise and not a text-book; he thus obtains rather more latitude for the inclusion of some historical discussions and many operative procedures of questionable value, and can make reference to many rare diseases of little importance to the student. We think that the student should use the book chiefly as a work of reference, supplementary to one of the ordinary text-books, in which he will appreciate the proper perspective of ophthalmological details more easily. The expert will be well advised to add it to his library, on account of the references to original articles contained, though, of course, these are far from exhaustive.

The general scheme of the work is familiar. There are introductory chapters on development and anatomy; then a chapter on the general principles of optics by Dr. W. N. Souter. The chapters on diseases of the eye follow the usual anatomical classification, though the order adopted differs from most other books—disadvantageously, as we think. The chapter on movements of the eyeballs and their anomalies is written by Dr. Alexander Duane.

The printing is excellent; there are many original illustrations, mostly good, and a very large number of borrowed ones, duly acknowledged.

Genito-Urinary Surgery and Venereal Diseases. By J. WILLIAM WHITE, M.D., John Rhea Barton Professor of Surgery, University of Pennsylvania, and EDWARD MARTIN, M.D., Professor of Clinical Surgery, University of Pennsylvania. Ninth edition. Illustrated with 300 engravings and 14 coloured plates. London and Philadelphia: J. B. Lippincott Company. Pp. 1092. Price 21s. net.

THE appearance of nine editions of a book within ten years must go far to prove that it is fulfilling its mission, and this fact places it beyond the reach of detailed criticism. The subjects included within this volume fully justify its great size, even though it has now passed the thousand pages; and the points which we select for brief notice are mainly those where it seems to us that in yet future editions some revision might be advisable. In discussing the etiology of chancroid the authors, though apparently satisfied that it is due to Ducrey's bacillus, do not state the fact so clearly as to make it obvious to those who are not acquainted with it before. For urinary segregation Cathelin's instrument is praised and it is described as better than its competitors, but the authors agree that even it is not sufficiently accurate for a bacteriological differentiation of the urine. With this latter opinion we agree, for we are inclined to think that the trustworthiness of urinary segregators has been much over-estimated. With regard to the operation of preference for the removal of enlarged prostate we are told that by either route, suprapubically or through the perineum, the great majority of prostates can be removed, and, the authors continue, "the experience and aptitude of the operator with the method to which he is accustomed is of far greater importance in determining the method of procedure than the character of the prostatic enlargement." This is certainly true, but we do not think they have made it quite clear that the large masses of prostate projecting into the bladder are much more easily removed suprapubically than through the perineum. We fully concur with the opinion expressed that

vasectomy is likely every succeeding year to occupy a more and more restricted field in the treatment of prostatic hypertrophy. The account of syphilis occupies more than 230 pages, and it forms an elaborate and accurate account of the manifestations of this disease and is illustrated by about 60 drawings, some of which are in colour. Unfortunately, we have been unable to find any reference in the account of the treatment to "606," but it is possible that the book was finished before this method of treatment became widely known.

Symptomatic and Regional Therapeutics. By GEORGE HOWARD HOXIE, A.M., M.D., Professor of Internal Medicine and Dean of the Clinical Department in the School of Medicine of the University of Kansas. London and New York: D. Appleton and Co. 1910. Pp. 499. Price 16*s.*

THIS volume contains material collected for the course in general therapeutics recommended by the Committee on Curriculum of the American Medical Association. This course forms a transition between the laboratory and clinical work, and therefore more attention has been given to the discussion of the principles underlying the various methods of treatment than to an elaboration of the relative merits of the various drugs which have been introduced from time to time for the treatment of disease.

The first part of the book is occupied with a consideration of symptoms and their relief, and of the relations of symptoms to pathological processes. Thus the treatment of pain by various methods is chronicled at length, local and general anæsthesia being included under this heading. The treatment of "localised inflammations" is described, but the remarks are too brief to be of any practical value. Diseases affecting the various systems of the body are considered seriatim and the pathology of each condition is briefly reviewed, a distinction being made between symptomatic and specific treatment. In this way the importance of rational treatment is impressed upon the student, and constant recourse to empirical methods is avoided.

The advice given in regard to the therapeutics of various affections is sound and well expressed, but we consider that although this book may be read by the student as a preliminary guide to "treatment," it can hardly replace other manuals.

La Pratique des Maladies des Enfants. Vol. VII., *Chirurgie des Enfants, Appareils Digestif, Cardiaque et Pulmonaire, Organes Génito-urinaires, Organes des Sens.* (*The Surgery of Childhood: the Surgery of the Digestive System, Heart, Lungs, Genito-urinary Organs, and the Organs of Special Sense.*) Par A. BROCA, Professeur Agrégé à la Faculté de Médecine de Paris; FROELICH, Professeur Agrégé à la Faculté de Médecine de Nancy; A. MOUCHET, Chirurgien des Hôpitaux de Paris; GUISEZ Assistant d'Oto-rhino-laryngologie à l'Hôtel-Dieu; and F. TERRIEN, Professeur Agrégé à la Faculté de Médecine de Paris. Avec 235 figures. Paris: J. B. Baillière et Fils. 1911. Pp. 540. Price, paper, Fr.14; boards, Fr.15 50.

THIS is a new volume of a valuable series of treatises devoted to the diseases of children. Like the preceding volumes of the system, it concerns itself mainly with diagnosis and treatment, and the names of the authors are sufficient to guarantee the high quality of the material. An article by Professor A. Broca, which serves as an introduction to infantile surgery, commences the volume. Professor Broca lays stress on the superiority of general anæsthesia over local anæsthesia for children, but he excepts cases in which there is hypertrophy of the thymus. He considers that almost all the deaths from chloroform in childhood are due to a faulty technique. Professor Froelich mentions that he prefers to operate for clefts of the hard palate at the age of 2½ years, but he performs the operation in two stages. Professor Guisez, who is responsible for the surgery of the ear, nose, and larynx, speaks very highly of direct bronchoscopy for the removal of foreign bodies, and mentions that he has had 25 successful cases out of 26 during the last seven years. The account of the surgery of the eye, by Professor F. Terrien, is very complete, and occupies nearly 200 pages; it deserves special mention. The illustrations in the volume are numerous and excellent, but in a work on the diseases of children it is surely a mistake to have some illustrations representing adults as patients, as in the figures of rhinoscopy. The book is a valuable volume of an important treatise.

The Reduction of Domestic Mosquitoes. By R. H. ROSS, M.R.C.S. Eng., L.R.C.P. Lond. London: John Murray. 1911. Pp. 114, with 18 illustrations. Price 5*s.* net.

YELLOW fever, dengue, and filariasis have been proved to be transmitted by two of the most common mosquitoes which worry the life of a healthy man, and which are an intolerable burden to the sick in hot countries. The object of this book is to bring to the notice of municipalities, town councils, health officers, and residents in warm climates the advisability of destroying all domestic mosquitoes, whether they are carriers of malaria or not.

Since 1899 Sir Ronald Ross has preached incessantly the need of extirpating mosquitoes by reducing the number of their breeding places, and in the following year Havana, a city of 250,000 people, began the campaign against gnats which has ended in the stamping out of yellow fever and malaria in many towns of the American continent. The mosquito net has hardly been necessary since 1903 at Ismailia; and the neighbouring town of Port Said, where the author lately held an appointment under the Department of Health of the Egyptian Government, determined in 1907 to destroy all the mosquitoes and to live in peace. In spite of the absence of sanitary laws dealing with this question, the presence of sea water only 3 feet below the level of the roads, 400 cellars in the town flooded with sewage from leaking cesspools, and a polyglot population under their own consular laws, which began by refusing to allow to sanitary inspectors access to the cesspools teeming with mosquitoes, this happy result was gradually accomplished at a cost of about £1000 a year, or 6*d.* per head of the population. The expense is nearly four times as great in Ismailia, partly because the population is only one-fifth that of Port Said, and also because Ismailia is rich in irrigated gardens, which have to be dealt with every week. For cesspools in Egypt equal parts of refined and crude petroleum mixed together are used, though any other oil which happens to be cheaper can be substituted. The general coöperation of the public must be obtained without the aid of the police, and it is all important to choose workmen of proved honesty, because each house in the town must be entered every week, in order to pour a litre of oil on every square metre of the surface of the cesspool contents, after which the latter must be well stirred with a stick to ensure an even film of oil spreading all over the surface. The householder has also to be warned against the dangers of stagnant water in his house and compound, and all flower vases, jugs, basins, buckets, and baths must be dried at least once a week. Special care must be taken with the kitchen, bathroom, and the cistern, which should be covered with a fine-meshed wire net of galvanised iron.

In Port Said, each mosquito gang, for it seems unnecessary to call three or four men working under a foreman a "brigade," deals with nearly 6000 houses every week, but many of these are huts or small shops which need but little supervision. Discretion and tact are always required; for

instance, in laundries the tubs of soapy water can be emptied on Saturday nights when the week's work is finished, and again the circulating cisterns of engines need not be clogged by petroleum, because the water in them is too hot for larvæ to breed there. The regular weekly visit discloses many insanitary defects, such as choked rain-water gutters, holes in trees containing rain-water, barge bilge-water, and other breeding places. If mosquitoes recur in a house which has been cleared, the responsible workman, whose name is inscribed on the door of the house, will have to be admonished, fined, or discharged. In Khartum, where the English can make their own laws, any householder is fined if mosquito larvæ are found on his premises, and lately several high officials have thus been punished. Similar fines exist in certain towns in the United States.

The author recommends mosquito reduction, because complete extermination is hardly possible, in Venice and other towns well known for this pest, and we believe that his book will be very useful to those who have not yet thought of ridding themselves of these irritating and sometimes dangerous insects. We doubt, however, if he is justified in claiming all the improvements in Port Said as the result of his energy in this one direction. He says the children "have some colour in their cheeks, and are able to play on the beach—it is a very different state of affairs. The place is buzzing, docks are being constructed, shipping dues are rolling in, and trade is progressing." Neither can we support his statement that the Egyptian Government has spent £249,000 during the past few years on fighting plague, and that "the result was *nil*."

LIBRARY TABLE.

Transactions of the South African Medical Congress (Twelfth Meeting). Published by the Transactions Committee of Congress, Cape Town. 1911. Pp. 324.—This volume of the proceedings of the Twelfth South African Medical Congress, held in November, 1910, contains many papers that reflect great credit on their authors. The Congress was honoured by the presence of the Duke of Connaught, whose reply to the address when at the opening ceremony especially bears witness to the devoted energies of medical men in the prevention, palliation, or eradication of disease, often involving a costly labour of research. His Royal Highness points out that such pioneers in the matters relative to disease should find their paths unhampered by financial obstacles. Dr. Charles F. K. Murray delivered the Presidential Address, in which he clearly pointed out the objects of such a congress. The work, although mainly scientific, embraces other matters claiming attention, such as the ethics of the profession, the attitude of its members towards each other and the public, and its responsibility towards the moral, intellectual, and physical well-being of the nation. He wisely suggests that at the time of the political union of South Africa a portfolio of Public Health should be created in the Ministry, and a resolution to that effect was submitted to the authorities unanimously. The section on medicine contains many admirable papers, amongst which may be emphasised that by Mr. A. Murray Gray on the Modern Treatment of Tuberculosis, which enters fully into all the recent methods for combating the disease. Dr. A. Garrow sends an important contribution on the Clinical Varieties of Mediterranean Fever met with in South Africa, in which he describes the following types: the acute malignant, the acute one-wave type, the acute undulatory type. Then follows a description of the subacute undulatory, the chronic, and the complicated types. The latter include pulmonary, pleural, hepatic, kidney, and nervous complications. We also may see cases simulating hip-joint disease and cases complicated by certain injuries and operations, and in this respect Dr. Strahan draws attention to the grave prognosis where Mediterranean fever complicates the puerperal state. The whole paper is well worth perusal. Dr. H. W. Reynolds writes on the interesting subject of ionic medication by electrolysis. Dr. S. P. Impey, a well-known authority on the disease, gives a paper on the Lepers of South Africa. He discusses the bacillus, points out the difference in prognosis between the tubercular and the anæsthetic forms, and draws attention to the rarity in South Africa of that variety wherein nodules occur on the trunk and the skin becomes hard and dry. The author holds that in anæsthetic leprosy only the nerves are affected, the other symptoms being of atrophic character. He also points out that nearly all authorities consider that there is hardly any danger of admitting to social intercourse lepers of the latter class. Dr. Impey first drew attention in 1902 to spontaneous cases of leprosy, which he believes occur much more frequently than is generally supposed. As regards segregation of lepers, he thinks this certainly should not be abolished, but the simpler form in vogue in Norway should be adopted. In the section on surgery will be found papers on Urinary Stone, by Dr. H. Temple Mursell; on Intestinal Obstruction, by Sir E Sinclair Stevenson; and an excellent paper on Some Factors Making or Marring the Success of Surgical Operation, by Dr. G. A. Casalis. Public health receives its due meed of attention. The special subject for discussion was the æstival diarrhœas of South Africa. This was opened by Mr. G. D. Maynard. The points he laid stress on were the need for simplification in nomenclature and more uniform methods of registration; the importance of the age factor; that the specific infection of food as a cause of the disease has probably been over-rated; and, finally, that the lowering of the body resistance due to improper feeding, climatic changes, insanitary conditions, &c., is of prime importance in the etiology of the disease. The author does not think that the agency of flies in the matter of causation as the chief factor has yet been proved. Dr. Garrow contributes also to this section a paper on the Etiology and Prophylaxis of Mediterranean Fever in South Africa, drawing attention to the part played by infected goats' milk, urine-infected kraal dust, and the fouling of hands and inoculation through abrasions with infected urine in handling the urine-soaked fæces of infected goats. Mr. H. A. Spencer writes on epidemic malaria a noteworthy paper, to which subject also Mr. Edward H. Philips contributes an excellent discourse. Many other praiseworthy papers in this report reflect the highest credit on our medical brethren in South Africa.

The Hunterian Lectures on Colour-Vision and Colour-Blindness. Delivered before the Royal College of Surgeons of England on Feb. 1st and 3rd, 1911. By Professor F. W. EDRIDGE-GREEN, M.D. Durh., F.R.C.S. Eng., Beit Medical Research Fellow. London: Kegan Paul, Trench, Trübner, and Co., Limited, 1911. Pp. 76. Price 3*s.* 6*d.* net.—These lectures were published in THE LANCET at the time of their delivery—viz., in our issues for Feb. 4th and 11th. Doubtless many of those especially interested in the subject—and, indeed, it is one of importance not merely to the ophthalmologist, but to every general practitioner—will be glad to have them in book form. The book contains several additional diagrams and illustrations which will help to elucidate the subject matter.

JOURNALS AND MAGAZINES.

Archivos Brasileiros de Medicina. Vol. I., Nos. 1 and 2. February and March, 1911. Rio de Janeiro: R. Gonçalves Dias.—These are the first issues of a new review, to be published monthly, with a minimum of 50 pages. The numbers will be alternately devoted to original work in, and

to a general review of, medicine. The first number, which is a specimen of the former class, contains original contributions and case reports, abstracts of articles and monographs, and book reviews. The "Supplementary Numbers," as those of the other class are called, contain a general review of matters of practical medical interest, a section of clinical reports, a permanent section on cancer, reports of medical societies, and other matters of professional interest. The last number of each year is to be devoted exclusively to a particular subject, the Problem of Syphilis having been selected for 1911. Each original article will have a *résumé* affixed in English, French, or German. In the first number Dr. Miguel Pereira and Dr. E. Gaspar Vianna report a case of blastomycosis which ran its entire course in less than four months and recalled in its rapidity and virulence bacterial septicæmia or bacteriæmia. The necropsy demonstrated the dissemination of the blastomycotic process throughout the organism, infecting, as it did, the pancreas, liver, lungs, mesenteric glands, joints, and bones. Numerous parasitic forms were found which seemed to characterise morphologically and biologically a new blastomycete. In the cultures a parasite of spherical form which produced mycelium developed. Inoculations into the ape, dog, roebuck, rabbit, and guinea-pig showed positive results. Other articles are: Two Cases of Madelung's Deformity, by Dr. Albaro Ramos; A Contribution to the Study of Uterine Fibroma, by Dr. Adolpho Possollo; A Contribution to the Applied Anatomy of the Prostate, by Dr. Benjamin Baptista; Nine Cases of Scurvy in Infancy, by Dr. Fernandes Figuiera; Responsibility in the Insane, by Dr. Henrique Roxo; Röntgen Diagnostics, by Dr. Toledo Dodsworth; A New Method of Blood-staining, by Dr. Joaquim Moreira da Fonseca; Reduplication of the First Sound of the Heart, by Professor Dr. A. Austregesilo; Clinical Reports of Benign Forms of Nervous Leprosy, by Dr. Juliano Moreira; Subcortical Sarcoma of the Right Parietal Lobe, by Dr. Ernani-Lopes; and Alternating Paralysis, by Dr. Joaquim Moreira da Fonseca. M. Pio Corrêa contributes an illustrated note on a Flacourtiaceous Parasiticide (Carpotroche brasiliensis Endl). There are several excellent illustrations and skiagrams. The character of the second number has been sufficiently described above.

The Child. Vol. II., No. 1. October, 1911. London: John Bale, Sons, and Danielsson, Limited. Price 2*s.* net, or 1 guinea annually.—Sir James Crichton-Browne's presidential address, delivered before the annual meeting of the Child Study Society at Halifax, Yorks, last July is the first article. He calls attention to the fact that 40 years ago he anticipated the present idea of the function of education—viz., to foster growth—by defining education, in his Education and the Nervous System, as the "guidance of growth." In this connexion he discusses the conditions influencing growth, mind and body growth, growth in different organs, and brain growth. He emphasises the importance of studying correlatively the growth of both mind and body. In an article on Ireland and Child Hygiene Sir John Byers points out the importance of child hygiene, describing the infant mortality as the index of social welfare and sanitary administration. He considers that the divergence between the excessive infant mortality among the poorer classes as compared with that among the better-to-do—notwithstanding that the mothers of the former class usually nurse their offspring, while those of the latter class do not—is due to removable conditions—viz., (1) the habits and homes of the people, and (2) maternal ignorance. The infant death-rate of Ireland, urban and rural, is discussed and compared with that of large cities elsewhere. He comments on school hygiene and tuberculosis in Ireland, and concludes with discussing the means to improve the hygiene of childhood. Mr. Arthur Greenwood discusses juvenile labour problems and suggests a line of reform. Mr. George Archibald Hamilton deals with the aim of religious education, which he describes as "to help the children to be overcomers [of obstacles]" He regards secular education in the schools as a psychological impossibility. Sir Francis Vane analyses the source of attractiveness to boys of the Scout movement, and says that it is clear that a movement which equally attracts the children of all races belongs to that category of things which are essentially universal, and protests against its limitation by the "village pumpists" to local ends and purposes. Miss Anita U. Boggs utters a plea for the forward child. Dr. Woods Hutchinson considers the effect of various well-meant experiments of philanthropy as a help or a hindrance in the diminution of infant mortality. He supports the care of infants by mother, aunt, or older sister as against institutional care, urges the displacement of the doctrine of content by that of fighting for betterment, protests against cheap foods, against the mother working up to the time of her confinement and neglecting her child afterwards for work, and against the indiscriminate urging of large families, contending that it is quality, not quantity, that should be reared. Mr. H. W. Armit describes the Child Welfare Section of the British Section of the International Hygiene Exhibition at Dresden.

The Bristol Medico-Chirurgical Journal.—To the September number Dr. George Parker contributes an interesting paper on Medical Organisation and the Growth of the Medical Sciences in the Seventeenth Century, illustrated by sketches of the lives of local worthies, among whom are included Cole, Sydenham, and Locke. Dr. A. Rendle Short writes on the End-results of Operations on the Stomach and Duodenum; he notes the number of cases in which an ulcer was diagnosed but was not found at the operation, severe hæmorrhage not being necessarily an indication of this lesion.

The Birmingham Medical Review.—In the September number Dr. W. J. McCardie discusses the advantages and disadvantages of Spinal Analgesia; his paper is not concluded in this issue. Dr. Leonard G. Parsons writes on Recurrent Vomiting occurring in Childhood, with notes of a fatal case. The condition is accompanied by the appearance of acetone bodies in the urine, and the treatment advised is administration of sodium bicarbonate and glucose. In a report on Infant Mortality in Birmingham the conclusion is reached that "the influence of industrial employment (of the mother) is quite small when compared with the influence of acute poverty ..... it is doubtful whether any further interference with the employment of married women would be at all beneficial as long as the acute poverty remains."

The Hospital, upon entering its twenty-sixth year of existence, has extended its scope in various directions, while the price has been reduced to 1*d.* weekly. It will henceforth be known as "The Worker's Newspaper of Administrative Medicine and Institutional Life, Administration, National Insurance, and Health." The issue for Oct. 7th was a special number, and contained articles of interest to those connected in various capacities with hospitals and kindred institutions, including a full report of the recent meeting of the British Hospitals Association at Manchester, and an editorial survey entitled "Twenty-five Years' Institutional Progress."

King's College Hospital Medical Society, which was founded in 1833, will open its season 1911–12 to-day, Friday, Oct. 13th, at 8 P.M., with an address on the "Use of Our Authority," by Mr. Stephen Paget, F.R.C.S. The chair will be occupied by Dr. StClair Thomson.

THE LANCET.

LONDON: SATURDAY, OCTOBER 14, 1911.

The National Insurance Bill.

A FORTNIGHT ago, in surveying the position of the National Insurance Bill, we found it to be certainly an anxious one, and recent events do not seem to have improved its prospects despite Mr. LLOYD GEORGE'S explicit statement that the Government would persevere with the measure. The amendments already passed by the House of Commons, while meeting in some respects the demands of the medical profession, have undoubtedly given great offence to the leaders of the Friendly Societies, and the word "betrayal" has been freely used by the representatives of these organisations. The Chancellor of the Exchequer, recognising the gravity of the situation and the necessity of reconciling so far as possible the rival claims of the medical profession and the Friendly Societies, held a conference at the Treasury on Monday last, to which representatives of the British Medical Association and of the societies were invited. No official report of the proceedings at this conference has been published, and in the circumstances it seems to us that little would be gained for either party by publicity. The objections of the Friendly Societies to the clause dealing with medical benefits are perfectly well known. They have been made at large and in strong language. Similarly the six cardinal points which the representatives of the British Medical Association are instructed to insist upon cannot be altered without reference to the members of the Association. All that it is possible to expect from the conference is, it seems to us, that the Friendly Societies having formulated their demands, the representatives of the British Medical Association should report how far those demands can be met without waiving any of the cardinal points. In the discussion which followed the presentation of the views of the Friendly Societies at the conference the representatives of the British Medical Association invited the societies to submit what they asked of the medical profession, but the medical secretary of the British Medical Association has disclaimed responsibility for a statement issued by the Press Association, saying that at the conference "a basis of settlement was reached." Mr. SMITH WHITAKER points out that he and the other representatives of the Association took every care to explain that they had no authority to enter into any arrangement of any kind, and that they could hold out no hope of any departure by the medical profession from the six cardinal points of its policy as already declared.

How much the medical profession will gain by even the maintenance in its integrity of the six-fold demand has always, of course, been a matter of doubt; and it is well that the medical profession should recognise this doubt before the measure is again before Parliament. Mr. ARTHUR MAUDE in a letter which we publish in another column reviews the present situation of the Bill in its relation to the medical profession, and examines critically the extent to which the six cardinal points have so far been met. He maintains in very able manner that little real concession has been granted by the Chancellor, the clear inference being that if the demands of the British Medical Association should be whittled down any further as a result of the conference now proceeding, the medical profession will have fought in vain. Our correspondent views the whole course of recent negotiations with suspicion. We do not share all his particular apprehensions. But we have never disguised our deep distrust of the introduction into the greater part of the medical service of this country of the contract system. This system has worked badly in our own experience of it, and cannot be regarded as a success in Germany; and it has throughout surprised us that a general acquiescence in its beneficence should have been expected of the medical profession by the public. For the present the British Medical Association and the Friendly Societies appear to have reached a place where one or other must yield, and where neither can do so; while the reconciliation of interests here will not make the Bill any more inviting to a large section of the medical profession. The British Hospitals Association, at its recent meeting at Manchester, heard the views of a responsible body of hospital managers and administrators, and the speakers unanimously declared that the Bill as it stands will seriously prejudice voluntary hospitals throughout the country, not only financially, but in their relation to the medical profession. The British Hospitals Association called on the Government to amend the Bill in order that the voluntary hospital system may not be swept away, and in so doing were speaking in the best interests of the science of medicine and of medical education.

The Difficulties of Diagnosis.

THERE are few opinions on medical subjects which are more strongly held by the non-medical portion of the population than the opinion that a physician or surgeon should be able to make a diagnosis of any case presented to him. For they hold that to a competent observer a diagnosis is simple and sure. Only a few years ago a medical man was fined for not notifying a case of small-pox, in spite of his statement that he was not satisfied that it was a case of this disease. The public fail to recognise that in many cases the making of a diagnosis is extremely difficult, and not rarely quite impossible; and they are ready to look upon any refusal to name the disease present as an acknowledgment of ignorance, while it may well be that the refusal is due to the wide knowledge of the observer. While it is true that rapid and accurate diagnosis is possible in cases where the signs and symptoms are striking and characteristic, nearly always careful examination is necessary, and the diagnostic methods which have been introduced of late years may have to be called into requisition before a decision can be come to with practical certainty. Increased facilities have brought with them increased responsibilities. And where the chief cause of difficulty in diagnosis is the absence of any marked symptoms, the medical man, with

all the aids now given him by physics, chemistry, and biology, may well remain in doubt as deep as any that would have involved his predecessors of fifty years ago. There may be some rise of the temperature and some malaise, and some indefinite and shifting pains, but without more definite signs or symptoms an accurate diagnosis is impossible. For cases such as these the diagnosis of "febricula" is regarded by some as satisfactory, and "influenza" has been of great utility in cases where no materials for a real diagnosis are at hand. Oftentimes these are mere screens to hide the absence of a diagnosis, and though they cannot be entirely condemned, for they may soothe and satisfy the anxious mind of the sufferer, they can hardly be regarded as other than unsatisfactory. The onus of these expressions of pious and semi-informatory opinion rests with the public who, without such expressions, condemn the medical man out of hand.

There may be present in a case some striking symptom, such as the pain in a case of sciatica, which will justify a diagnosis, but even in so simple a matter as this, where the pain is the expression of a neuritis, it must not be forgotten that almost identical symptoms may follow from the presence of a tumour—say—in the pelvis pressing on the sciatic nerve. Nowadays the medical man who looks no further before him than is implied by the diagnosis of sciatica may satisfy his audience, but not his conscience. Perhaps the most troublesome cases to diagnose are those in which two absolutely independent lesions or morbid states co-exist. It is an established rule in diagnosis that the simplest explanation which will account for all the symptoms and signs present should be accepted, yet it will happen that though two distinct lesions are present they may give rise to symptoms explicable by one diagnosis. As an instance we may mention a case in which definite syphilitic ulceration is present on the face, while a localised enlargement of the tibia also exists. Here every surgeon would feel justified, in the absence of further evidence, in diagnosing the lesion of the tibia as syphilitic in origin, and yet in a case of this sort which was recently brought to our attention, though the ulcers were certainly syphilitic, the swelling of the tibia was due to a central sarcoma. In the pages of THE LANCET have appeared numerous instances in which an error in diagnosis has been due to the mixed origins of the symptoms, and doubtless many such cases must occur to the minds of our readers. Another occasional but very important cause of diagnostic mistakes is poisoning. In such cases the value of the many precise aids to diagnosis now possessed by the medical man may become very obvious; closer investigation will show that conditions which might have one reason are better explained by another. It is such careful revision and correction of diagnosis that, for example, the poisoner has to dread. It is so rare for a medical man to meet with cases of sub-acute or chronic poisoning, either accidental or intentional, that he is inclined to recognise in the condition of the victim some combination of signs and symptoms that can be explained on more usual grounds. Many trials for murder have shown that cases of homicidal poisoning have escaped recognition, even though treated by very competent medical men, because no suspicion of poisoning was excited in circumstances which a more common diagnosis appeared to fit. We can all see how important it is that the possibility of poison should be present to the physician's mind upon the necessary occasions, but the same importance exists, though not in so dramatic a form, when obscurity occurs in any clinical problem.

The difficulties of diagnosis can never be fully appreciated by the public, and just as the English law supposes that every man knows the whole of the law, so does it suppose that every medical man knows the whole of medicine. Which is absurd. The progress of science has placed in our hands many diagnostic means quite unknown a few years ago. The Roentgen rays reveal to us differences unascertainable by other means, especially in regard to the bones and to foreign bodies; the recent introduction of the bismuth method has made the X rays applicable to many parts of the alimentary canal and thus has widely extended their usefulness. The employment of tuberculin and mallein, and other similar substances, has become so certain a method of diagnosis as to be utilised in agriculture. Still more recently Wassermann's test has been introduced, and when employed with due care it is invaluable, and often decisive. The value of differential blood-counts is also great for diagnosis and prognosis, words which would describe much other pathological procedure which we do not mention. But with all these adjuvants the greatest care has to be used in solving the complex problems of disease, while no amount of laboratory technique will absolve the physician from ordinary general precautions in making a diagnosis. We chronicle elsewhere the death of Dr. JOSEPH BELL, the Edinburgh surgeon, whose elaborately developed powers of observation revealed to him the environment in which many of his patients lived and moved. JOSEPH BELL, be it remembered, was a thoroughly good scientific surgeon. The detective faculty may be of the greatest value to the medical man when reinforced by the ability to make use also of every aid which science can supply. Without such aid failure will result, while, on the other hand, elaborate pathology unsupported by ordinary observation is deprived of half its value.

Annotations.

"Ne quid nimis."

THE GALTON LABORATORY OF EUGENICS.

THE importance of the study of eugenics can hardly be exaggerated, since the bias of future legislation will almost certainly be in the direction of social reforms; and if such legislation is to be anything more than the passing of palliative measures it must be based on accurate data. Besides laying the foundations of the science of eugenics Sir Francis Galton himself endowed the Research Fellowship in Eugenics in the University of London, and the Society of Eugenics, which was formed by his friends, is zealously carrying on that good work. Sir Francis Galton also left the residue of his estate to the University of London for the endowment of a professorship and laboratory for national eugenics, and in his will he expressed the wish that the University would see fit "to preserve the capital thereof wholly, or almost wholly, intact, not encroaching materially upon it for cost of buildings,

fittings, or library." In order to carry out the wishes of the testator, the income from his bequest being insufficient to cover both endowment and adequate buildings, Lord Rosebery, the Chancellor, Sir William J. Collins, the Vice-Chancellor, Sir Edward H. Busk, chairman of Convocation and of the Galton Laboratory Committee, Dr. Henry Miers, the Principal, and other officials of the University of London, have issued an appeal for £15,000 for the provision of a Galton Eugenics Laboratory at University College, Gower-street. The appeal points out that the scope of the science of eugenics and the work of the laboratory have been defined as "the study of these agencies under social control that may improve or impair the racial faculties of future generations physically and mentally." In accordance with the suggestion of Sir Francis Galton, Professor Karl Pearson, F.R.S., has been appointed first Galton professor, and he is assisted by a staff of highly trained workers who now find very insufficient accommodation in a few small rooms temporarily placed at their disposal at University College. The output of the laboratory in the form of original investigations has been very large, and attention is called to the fact that already influential movements are on foot for the academic recognition of eugenics and the establishment of similar laboratories in both America and Germany. The small laboratory, consisting of two rooms only in the applied mathematics department at University College, is consulted very largely by medical officers of health, by school medical officers, and by independent medical men engaged in statistical problems. On the ground that the institution has already been of great value and will render increased public service with its fuller development, the University feels justified in sanctioning an appeal for such external aid as will enable its staff to carry out effectively this portion of their functions. At the present time the laboratory is in possession of material received from educational and health authorities in all parts of the country, which alone would require three or four full years' labour for the existing staff to analyse and publish, and the bulk of it has direct bearing on the most important social and national problems of the day. No better memorial to the late Sir Francis Galton could be established, and we heartily endorse this appeal. Sketch plans of a new laboratory by Professor F. M. Simpson, F.R.I.B.A., are affixed to the appeal, and contributions and promises of support will be received by Sir Edward Busk, University of London, South Kensington, S.W.

THE ALBUMIN REACTION IN TUBERCULOUS SPUTUM.

THIS reaction is stated to be invariably present in cases of tuberculous disease of the lung, even in its early stages when it may be difficult or impossible to discover tubercle bacilli in the sputum. The technique of the reaction is exceedingly simple. 5 c.c. of the sputum are mixed with 20 c.c. of physiological salt solution in a test-tube; 5 or 6 drops of acetic acid are added and the whole well shaken up and then filtered. The filtrate is then tested for albumin by heat or nitric acid.[1] Lesieur and Prirey[2] find this reaction present before the appearance of any physical signs in the lungs in 75 per cent. of cases, and declare it a more useful test than the microscopic examination of the sputum. In miliary tuberculosis it is not constantly given, nor in pleurisy. It is present in acute lobar pneumonia due to pneumococci during the attack; its persistence in this disease during convalescence points to the probability of a new focus of infection or a complication. The reaction is found also in acute pulmonary œdema, acute congestion, and acute broncho-pneumonia. As a rule, it is negative in acute bronchitis, and it is negative in chronic bronchitis and in emphysema. In cardio-renal cases it is often positive. They give 840 observations from various authors in which the reaction was positive in 100 per cent. of cases confirmed by microscopic examination of the sputum for tubercle bacilli, in 82 per cent. of cases of probable pulmonary tuberculosis, and in 37 per cent. of cases of non-tuberculous sputum. They find that the intensity of the reaction is in direct proportion to the importance and gravity of the lesions and the abundance of tubercle bacilli, and so consider the reaction to be valuable in prognosis as well as diagnosis. A negative reaction would appear to exclude pulmonary tuberculosis.

[1] Fornara, Il Policlinico, Sezione Pratica, Anno xviii., Fascicolo 27.
[2] Paris Médical, 29, vol. iv., 1911.

THE PAST SUMMER.

THE statistics below have been compiled from observations published month by month by the Meteorological Office and may consequently be regarded as accurate. They comprise the mean temperature, the total amount of rainfall, and the total number of hours of bright sunshine for the three months, June, July, and August. The

—	Mean maximum temperature.	Mean minimum temperature.	Mean temperature.	Difference from average.	*Number of days with rain.	Total fall.	Difference from average.	Number of hours of sunshine.	Difference from average.
	°	°	°	°		in.	in.		hrs.
Greenwich	78	54	65·9	+3·6	24	3·7	−3·1	819	+189
Westminster	75	57	66·2	+4·1	22	4·8	−2·2	773	+257
Hampstead	73	55	64·0	?	26	3·7	?	771	?
Kew Observatory ...	75	56	65·3	+4·1	23	3·6	−3·3	789	+197
Tunbridge Wells ...	74	53	63·6	+3·6	19	3·3	−3·8	881	+274
Bath	75	54	64·1	+3·4	23	2·8	−5·1	824	+219
Harrogate	69	51	60·2	+2·7	30	6·2	−1·8	654	?
Buxton	69	50	59·5	+3·1	31	6·0	−5·2	701	?
Hastings	71	56	63·7	+3·4	19	4·6	−2·0	907	+225
Brighton	71	56	63·9	+2·7	18	3·2	−3·2	918	+242
Bournemouth... ...	73	55	64·0	?	21	3·5	?	894	?
Sandown, Isle of Wight	73	57	64·5	?	26	3·8	?	900	?
Ventnor	72	58	64·5	+3·5	24	3·3	−3·4	882	+271
Torquay	71	57	64·1	+3·4	17	2·7	−4·4	888	+171
Plymouth	70	57	63·7	+3·2	27	6·0	−2·9	835	+215
Jersey	72	59	65·5	+3·9	25	4·6	−2·3	922	+193
Penzance	70	58	63·7	?	34	5·3	?	762	?
Scilly...	67	56	61·4	+4·6	29	7·5	+0·6	751	+ 61
Bettws-y-Coed ...	70	52	60·8	+1·3	42	9·3	?	665	?
Llandudno	70	56	62·9	+3·4	36	6·7	−0·8	779	+224
Southport...	69	54	61·3	+2·6	35	6·3	−2·4	787	+219
Blackpool...	68	53	60·6	+5·7	35	6·7	−2·2	800	+250
Scarborough	67	54	60·5	+2·6	41	8·9	+1·5	658	?
Yarmouth	69	56	62·6	+3·4	19	3·0	−3·9	750	?
Clacton	70	56	63·3	+2·0	20	3·0	−3·0	847	+136
Margate	73	57	65·1	+3·8	18	2·8	−3·2	816	+233
Nottingham	73	52	62·7	+2·7	31	4·4	−3·0	673	+ 49
Birmingham	73	54	63·3	+4·2	33	3·6	−4·3	588	?
Manchester	72	56	63·7	?	32	5·5	−4·7	609	?
Liverpool	69	55	62·0	+2·7	33	5·9	−2·2	759	?
Glasgow	66	53	59·2	+2·3	45	6·5	−3·7	548	+107
Aberdeen	63	51	56·7	+0·9	51	5·0	−2·8	632	+129
Dublin	69	55	61·7	+2·3	40	5·6	−2·3	†588	+ 59
Armagh	68	50	59·2	+1·7	44	5·9	−3·3	597	+152
Birr	70	50	59·9	+1·8	45	6·7	−4·0	597	+146

* A day with at least 0·01 inch.
† Sunshine in Phœnix Park.

comparatively slight excess of the temperature over the average may be noted; the figure is in many places no

more than about 3°. In July and August, however, it was from 5° to 6°, or even more, over a very large part of England, and it is owing to the fact that June was very little warmer than the normal that the excess of the three months is relatively small. August was a little hotter than July in nearly all parts of the kingdom, and considered generally it was the hottest of which there is any record. The metropolitan area experienced the greatest heat, and this was followed rather closely by Jersey and Margate, while the coolest regions were the north of England, Scotland, some parts of Wales, and Ireland. The periods of greatest heat were July 22nd and August 9th. On the former date the sheltered thermometer reached 90° and above in very many localities, the highest readings being 98° at Greenwich and 97° at Epsom, while on the latter there were many readings above 95°. At Canterbury, Epsom, and Raunds readings of 98° were recorded, at Isleworth 99°, and at Greenwich 100°. This last figure, however, is, perhaps, not strictly comparable with those recorded elsewhere, as it appears that at the Greenwich observatory the form of the sun screen in use is not of the same type as those employed over the kingdom generally. The duration of sunshine, like the temperature, was everywhere in excess of the average, the excess in several localities of the south amounting to between four and five hours a day. There were, nevertheless, some districts where the excess was much less, the most noticeable being Nottingham, the Scilly Isles, and Dublin. Of all the records given in the table that at Glasgow was the lowest and that at Jersey the highest, the difference being represented by four hours daily. Except at Scarborough, where June was wet, the droughty condition on the mainland is well shown by the statistics. In East Anglia, Kent, and along the south and south-west coasts rain fell on no more than 20 days at the most, many places in those districts reporting a figure even lower. The driest places given in the table were Torquay, Bath, Margate, Clacton, and Yarmouth, each station receiving the small aggregate of three inches or less, a quantity wholly inadequate for three months of hot sunshine. Ireland, Scotland, and the northern parts of England were more fortunate, although even there the total fall was generally far short of the average. Of the four stations representing London it will be seen that Hampstead was the least warm both during the daytime and at night, and that it was somewhat less sunny than both Kew and Greenwich.

WHERE CHEMISTRY AND MEDICINE MEET.

IN his Presidential Address delivered to the Obstetrical and Gynæcological Section of the Royal Society of Medicine, a full abstract of which is published in our present issue, Dr. Amand Routh advances cogent reasons for encouraging coöperation between the physiological and pathological chemist and the obstetrician. Dr. Routh shows that obstetricians are at a standstill as regards the nature of the bio-chemical changes in the blood which influence the cyclical functions of menstruation and ovulation, and of those blood conditions which appear to encourage the implantation of the fertilised ovum and induce the onset of labour and lactation. Very little is known also of the autotoxæmias which may cause such toxic obstetric troubles as hyperemesis gravidarum, puerperal albuminuria, eclampsia, acute yellow atrophy of the liver, chorea gravidarum, and puerperal insanity. The fact that blood serum from pregnant women has different qualities from that of other women is indicated in several ways, but the physiological chemist has not yet discovered either the chemical constitution or the molecular structure of the substances concerned. Thus it is said that the serum of a pregnant woman hinders the proteolytic ferments, such as trypsin, and that pregnancy can be diagnosed by this fact. It has been stated by Krause and Graff, of Vienna, that placental serum has a remarkable power of destroying cancer cells. Stern has shown that whereas in healthy non-pregnant women 65 per cent. gave positive reaction to the cutaneous tuberculin test and 14·5 per cent. to the conjunctival test, the cutaneous reaction at the end of pregnancy diminished to 30 per cent. and the conjunctival reaction results were consistently negative. To the same category of observation we may refer the fact that pregnant women appear to have a sort of immunity from scarlet fever, for Olshausen could only find instances of seven cases of scarlet fever during pregnancy, as compared with 134 within one week after delivery. Dr. Cuthbert Lockyer, again, has investigated the influence which the lutein tissue formed in the mature Graafian follicle can exercise. It is known that excess of lutein tissue, sometimes in the form of lutein cysts, is associated with hydatidiform degeneration of the chorion, and it is known that destruction of the corpus luteum in rabbits prevents implantation of the fertilised ovum by preventing the development of the trophoblast, and these and other facts seem to show that lutein tissue is one of the elements of the ovarian internal secretions which, through the blood, may exercise influence on the cyclical functions of the uterus, and on the normal or abnormal implantation of the ovum. The effects on the menstrual function of disordered internal secretion of the other ductless glands, in such diseases as myxœdema, Graves's disease, cretinism, and acromegaly, are to some extent familiar. Altered metabolism in the placenta or Graafian follicles is believed to be the cause of the various autotoxæmias which cause eclampsia and other parturient or puerperal diseases. The fact that puerperal eclampsia in women and puerperal apoplexy in cows can sometimes be cured (the latter in 98 per cent. of cases) by injections of antiseptics or even oxygen into the mammary glands, suggests that disordered metabolism of those glands also may at times produce a virulent toxin. Such a difficult blend of sciences as physiological and pathological chemistry cannot be undertaken except by experts, and Dr. Routh is of opinion that no real advance will be made in our knowledge till special laboratories for these subjects are established in our medical schools, and effort is thus made to discover the nature of the substances concerned, and their appropriate prophylaxis and antidotes. The question as to how this chemical branch of pathological research is to be provided is likely to prove difficult. Inasmuch as the work is required for the correct diagnosis and efficient treatment of the patients in hospital, it is not only rational, but just, that the hospital, rather than the medical school, should bear the expense, but it is not at all certain that this view would be taken by some of the lay authorities on hospital management.

ACUTE NEPHRITIS FOLLOWING THE INJECTION OF SALVARSAN.

THE untoward events which may follow the administration of salvarsan are almost exclusively associated with the intravenous mode of injection, and it is also possible to argue that many of them (nerve-deafness, for instance) are as likely to be due to the disease as to the drug. However, when all such allowances have been made, there still remains a residue of evidence as to the possible toxicity of salvarsan. Two cases, reported by Dr. H. Tucker of Philadelphia in the *Therapeutic Gazette* for September, go to show that the intravenous injection of salvarsan may speedily be followed by acute nephritis. The first case was that of a man, aged 30, who came under treatment for a hard penile sore with inguinal adenitis. His general condition was good, and his life had been

one of uninterrupted health until he acquired syphilis. A week before the injection of "606" was given he presented a characteristic secondary rash. The urine is reported on this same date as containing a trace of albumin and a few leucocytes, but no casts. The Wassermann test was positive. A dose of 0·6 gramme of salvarsan was given intravenously. In an hour the patient was vomiting and the temperature had risen to 101·2° F.; there was a large watery evacuation of the bowels. On the following day there was complete suppresion of urine, none being withdrawn even by catheterisation; by the evening the patient was very dyspnœic, and by midnight he was dead. No post-mortem examination was made. The second patient was also a fairly healthy man, aged 24; he was poorly developed and took spirits to excess at times, but apart from these facts his condition was apparently normal, except for the evidence of syphilis, which brought him under Dr. Tucker's care. He was in the secondary stage, having already undergone an inadequate course of treatment several months before. The urine was normal, containing neither albumin nor casts. Accordingly, after the Wassermann test had shown a positive result, 0·6 gramme of salvarsan was given by intravenous injection. Two hours later excessive vomiting began, with copious watery motions; the temperature was 105°, but this fell in 18 hours to 96°. No urine was passed, in spite of active treatment, for 24 hours following the injection. The mental processes were clouded and there was fleeting delirium. A specimen of urine collected by catheterisation on the day following the injection presented all the features of acute nephritis: blood and casts were found, and the specific gravity was 1030. Within a week, however, all the abnormal constituents had disappeared together with the symptoms. It seems impossible to escape the conclusion, particularly in regard to the second case, that salvarsan administered intravenously can provoke acute inflammation of previously healthy kidneys.

THE PHYSIOLOGY OF THE MARCH.

THE danger of heat-stroke from a heavily clothed person taking severe exercise on a warm day, particularly on a warm, moist day, is not generally appreciated, though fatalities have resulted at military manœuvres and operations. In an interesting article published in the *Journal of the Royal Army Medical Corps* for July Lieutenant-Colonel C. H. Melville, R.A.M.C., has lucidly discussed this danger in particular and the physiology of the march in general. He aptly compares the human body during exertion to a petrol or other internal combustion engine. The nervous impulse corresponds to the spark and the combustion in the muscles of certain constituents (consisting of carbon and hydrogen) to the explosion of the petrol. In both not only is work done, but as a necessary concomitant heat is generated and provision is made for its dissipation. In the body it is carried by the blood-stream to the surface, where it passes off by evaporation of moisture, radiation, and convection, of which the first is the most important. In the motor-car a water circulation is provided by which the heat is removed from the engine to the radiator, where it passes off. If the dissipation of heat is interfered with fever or heat-stroke is produced in man, an over-heated engine in the car, and in both serious injury may result. During severe exertion the rise in temperature is considerable. In a series of observations Dr. M. S. Pembrey and Captain Parker, R.A.M.C., found that in soldiers marching under varying conditions of load the temperature rose on an average 2·3° F. Such a rise is physiological and may be regarded as a danger signal. A temperature of 103° may be taken as the point where danger begins. Taking the normal temperature at rest as 98·6°, man has then a margin of safety of 4·4°. Taking the normal temperature of exercise as 101·6°, the margin is reduced to 1·4°, and here the danger lies. The danger is much greater in the soldier marching than in the civilian, because the civilian is at liberty, by varying his clothing, his pace, and load, to minimise the production of heat and facilitate its dissipation; the soldier is not. The importance of the load carried is shown by an experiment on the same man on the same march, on level ground on different days of approximately the same temperature. On the first occasion he was in drill order and his temperature rose less than ½°. On the second occasion he was in marching order, and his temperature rose 1°. If the load be materially increased to, say, 60 pounds, and the march long, and the conditions of weather unfavourable, the temperature may rise considerably. The German physiologist Zuntz has observed that a march of 15 miles with a load of 68 pounds sent up the temperature of men to 102·5° and higher. Those whose temperature rose to 103° or more had flushed purple faces and a vacant stare, and were obviously on the verge of breaking down. A load of 48 pounds on a very hot day had the same effect in raising the temperature as a load of 68 pounds on a cool day. The temperature produced is affected by the pace in two ways. Suppose a certain load is carried a certain distance in ten minutes, and again in five minutes. In the second case only half the time is given to dissipate the heat produced, while more heat is produced because the human body engine, like all other engines, has a normal speed at which it works with the greatest economy. Any variation above or below normal is uneconomical, and more heat is produced in proportion to the work done. All clothing interferes with the dissipation of heat because it interferes both with the evaporation of perspiration and with radiation. Even a slight difference in clothing is important. Five men were marched in drill order on two occasions—on the first with, and on the second without, their jackets. In the former case their temperatures rose 1½°, in the latter 1°. The obvious corollary is that soldiers should be ordered to open their jackets during severe exertion. Yet this is often neglected at manœuvres. A historical instance of the effect of difference of clothing on the endurance of troops is furnished by the attack on Chin-Kiang-Foo in the first Chinese war. The 9th regiment, healthy and strong, having just landed, ascended the heights dressed according to regulation. The heat was intense, and numbers fell dead from heat-stroke. The 18th, 49th, and 55th regiments, equally exposed to the sun, but with their jackets opened and stocks removed, did not lose one man from this cause.

TUBERCULOUS OSTEOMYELITIS OF THE SYMPHYSIS PUBIS.

IN the *Canadian Medical Association Journal* for September Dr. Francis J. Shepherd has reported an interesting case, describing it as one of tuberculous osteomyelitis of the symphysis pubis. A telegraph operator, aged 33 years, was admitted into the Montreal General Hospital on Jan. 26th, 1911, suffering from a large swelling in the lower abdomen. Excepting an attack of rheumatism he always enjoyed good health. Fourteen months before admission, while lifting hay, he gave himself a wrench, he thought, of the right hip. After two days the pain subsided, but three weeks later he again had sharp pains in his right hip when he walked or spread his legs apart. He limped until March, 1910, when he sought medical advice, under which he improved, but soreness still remained in the hip-joint, especially when he abducted his leg or when he lay on his right side. Flexion and extension were free and painless. In November, 1910, he noticed a small lump under the skin midway between the umbilicus and symphysis pubis.

It was of about the size and shape of the little finger and lay transversely. It was not tender or painful. He did not suffer from night sweats or lose weight. The swelling increased considerably and thinking that it was a hernia he wore a truss which, he said, gave relief. The pulse and temperature were normal. On examination a freely moveable mass extending two and a half inches on either side of the middle line was found between the umbilicus and symphysis pubis. The skin was not involved and there was no heat or redness. The swelling protruded from the abdomen and seemed to be external to the muscles. It fluctuated in the centre. Rectal examination revealed nothing. The right hip joint was normal in appearance and movement. There were no dilated veins. Under anæsthesia an incision was made above the pubis and a large quantity of flaky odourless pus was evacuated. On inserting the finger a large cavity was felt in the symphysis, containing a sequestrum and some cheesy matter. The sequestrum was removed, the cavity scraped out, and the opening closed. Another opening was made directly over the cavity, through which iodoform gauze packing was introduced. After a few days this was removed and bismuth paste was introduced. The wound healed rapidly and the patient was discharged on Feb. 28th able to walk, and without pain in the hips or pelvis.

MORTALITY IN A PUBLIC SCHOOL RECORD.

A GATHERING of "Old Boys"—former scholars of some particular school—is both a gay and a sad affair. They meet together, once a year it may be, at the Old Boys' Dinner, and one espies on every hand the familiar faces of one's early youth, mounted on incongruous or decrepit bodies. Where there is no excess of intellect—and who will be so bold as to say that public-school life in the fourth and fifth forms promotes intellectuality unduly?—where, too, the emotional life has been *nil*, the average Briton's face changes very little in the course of a life-time. It is possible to recognise, after the lapse of some forty years, the face of Jones IV., say, whom one last saw in the midst of some sanguinary school-boy fight at "the back of the fives courts" at the old school. The face will appear almost as boyish as of yore, save that, perhaps, it will be thatched with scanty grey hair, though its pedestal, the human frame, will display varying losses of symmetry. The ageing man, however, is more impressed by what he does not see than by what he does see on these occasions. He now misses his friends. After the age of 40 the mortality of the public school-boy begins to be apparent. An admirable contribution to the literature of school registers, the third edition of "The Register of Tonbridge School from 1826 to 1910," has just reached us. The editor is Mr. H. E. Steed of H.M. Office of Works. From this book it becomes obvious that since the "seventies" and early "eighties" death has been singularly busy among the Old Boys. Of what do public school-men die? From the data contained in a school register it is hard to say, but it is possible to infer much from the known characters of the deceased as well as from the incidence of their deaths. We therefore invited the opinion of an old Tonbridgian of the indicated seniority. From him it appears that Tonbridge some 30 or 40 years ago sent quite 40 per cent. of its *alumni* to India or the colonies, and had therefore to bear a large share of the "white man's burden," spoken of by Kipling, and much of its mortality has, presumably, been due to tropical disease. Of an entry of 35 boys into Tonbridge School in September, 1874, one-fifth has departed into the land of shadows. The first form, of which our informant was bottom boy, numbered 18, of whom the eldest is now 51 years old. Two of these have died—the one killed "while in pursuit of Lobengula," while the other, a well-known Congo pioneer under the late H. M. Stanley, succumbed to influenza in West Africa in 1891. The sixth form of that date, September–December, 1874, naturally shows a greater mortality, for the sixth-form boy is, on the average, 18 years old, while the average age of the then lowest form at Tonbridge was 10 or 11 years. Of 11 sixth-form boys 3 have died, and 2 of these died in India and China respectively. Roughly speaking, of the whole number of boys mentioned in this register who were born between 1860–1862—that is to say, about 50 years ago—5½th have died. In other words, 36 or 37 have died out of a total of 190. If from the actuarial point of view the average seems high, it should be borne in mind that of the 36 or 37 at least 20 have died abroad, in Burma, Manitoba, India, sometimes by accident or from disease contracted abroad, as in the case of military men or of an overworked medical officer, like the late Allan Euan Grant, M.B., C.M. Edin., of Madras, who returned to England to die from diabetes in 1902. Of the remaining 16 or 17, one heroically sacrificed his life for a child. This was Francis Stanhope Hawkins, M.B., F.R.C.S. Edin., born 1861, who as house surgeon of Guy's Hospital, died from diphtheria in September, 1888, "contracted while clearing the tube inserted in the throat of a child." He is therefore most honourably out of court. Of the rest, one died from scarlet fever at Keble College, Oxford, one from phthisis, and two while still at school. Much has been written about the after-lives of athletic boys and of vicious boys, some good people writing as if these classes were necessarily the same and some as if they were necessarily different. The perusal of this register does not tend to convince one who remembers something of the boys recorded to hold either that too much athleticism entails an early mortality, or that the kind of youth, darkly referred to by the late Dean Farrar in a certain disagreeable chapter in "Eric, or Little by Little," is more prone to die young than his fellows. The *mauvais sujet* bulks no more largely among the deaths than among the surviving school successes. Many of those who die early are worthy and blameless clergymen; and, *per contra*, among the plumes in the school cap, some of them men of adventure, are those who in their day were voted boys of poor spirit or prigs. A prig, indeed, is often a man of individuality, possessed, in a marked if sometimes perverse kind of way, of that rare quality—moral courage. These school records, like old school gatherings, produce mixed feelings of pleasure and pain to those who read them with personal knowledge, but from an ethnological point of view they have their value.

THE RELATION OF THE ORGANIC PHOSPHORUS CONTENT OF VARIOUS DIETS TO DISEASES OF NUTRITION, PARTICULARLY BERI-BERI.

IN these columns we have from time to time in recent years reported the advances which have been made in our knowledge of beri-beri, which had been until quite lately a most mysterious disease. In the Malayan peninsula and archipelago, as also in the Philippine Islands, many opportunities have been afforded for investigation into the nature of this malady, and much of what we know has come from that quarter. The disease, as it occurs in the Far East, is now generally recognised to be due to a dietary of white rice from which the pericarp of the grain has been removed in the process of "polishing" or milling (the pericarp containing the bulk of the phosphates and other salts), so that the disease is easily prevented by the use of a less highly milled or polished rice, one, in fact, that retains at least a

portion of the pericarp; and beri-beri can also be cured simply by administering with the food of the patient a portion of the "polishings" which are removed from rice in the milling process. In an article in the recently issued number of the *Annals of Tropical Medicine and Parasitology* (Series T.M., Vol. V., No. 2), published by the Liverpool School of Tropical Medicine, Dr. G. C. E. Simpson and Mr. E. S. Edie give an account of some experiments which they had carried out in connexion with the subject. The writers allude to the valuable work done by Schaumann and give a most interesting summary of that investigator's conclusions upon the results of his experiments on animals. They consider that his work has not received the attention in this country that it deserves. Schaumann in 1908, and Fraser and Stanton also a little later and quite independently, discovered that diets which produced peripheral neuritis were invariably poor in phosphorus, and that substances which have the power of preventing this neuritis, such as rice-meal, wheat-bran, katjang beans, yeast and testicular extract, are rich in that substance, so that the smaller the percentage of a diet in phosphorus the greater is its influence in producing beri-beri in man, or neuritis in fowls. It has already been shown by experiments that the animal body has not the power to synthesise the organic phosphorus compounds necessary for the life of the cells from phosphorus-free proteins and inorganic phosphates, but that animal life is dependent for these substances (as for proteins and carbohydrates) on the synthetic powers of the vegetable kingdom. Schaumann as a result of his experiments has formed the opinion that spontaneous or experimental polyneuritis in animals appears to be a disease of metabolism, attributable to the lack of some specific organic phosphorus compounds the identity of which, however, is still uncertain. As regards the form of beri-beri which occurs on sailing-ships, it is pointed out that many of the articles of diet carried on long voyages—such as white rice, white bread, and potatoes—are poor in phosphorus, and that salt meat loses 50 per cent. of its phosphorus by the combined action of the pickle lye and of the water in which it is boiled. Peas and other legumes as a result of a long voyage become mouldy, as well as hard and resistant to cooking even with soda. Schaumann's view seems to be that scurvy may be due to stale vegetables and ship beri-beri to the use of rotten or stale meat, the important factor being the lack of organic compounds of phosphorus. It is also worthy of mention that the preserved meats may have been "denaturised" by excess of heating in the process of preserving. Infantile beri-beri is known to be very common in the Philippines, Japan, and elsewhere. Schaumann's explanation of its cause is that it is associated with a great diminution of phosphorus in the mother's milk, especially in organic combination, and also associated with phosphorus hunger in the mother, resulting in a retention and sparing of phosphorus. Dr. Simpson and Mr. Edie have confirmed Schaumann's conclusions so far as their own experiments have extended. These, however, are to be continued, and a further report will in due course be presented. They believe that in the majority of cases tropical beri-beri is due to a deficiency of organic phosphates in the diet, but in occasional cases it may be due to deficient absorption of organic phosphates by the alimentary tract, or to bacterial infection possibly splitting up the phosphates before absorption, or interfering with the absorptive power of the intestine. They suggest, also, that a whole cycle of other diseases have in all probability a similar etiology, and that among these infantile scurvy, rickets, osteomalacia, &c., may be included. Lastly, the writers discuss the danger of white bread to English children. White bread has given rise to polyneuritis in fowls fed upon it; and as the phosphates are removed with the bran it is possible that children fed largely on such bread might develop disease as the result of deficiency of organic phosphorus in the diet. It is somewhat curious that the wheat-bran rich in phosphates is given to cattle for the purpose of fattening them. Dr. Simpson and Mr. Edie advocate the substitution of wholemeal bread for the white variety. We are not prepared wholly to endorse this recommendation, but there is much material for thought in this interesting paper.

THE ROYAL SOCIETY OF MEDICINE AND DENTAL RESEARCH.

IT has long been felt that dentistry, which has made such wonderful strides within comparatively recent years, would make still more rapid progress if its students could be encouraged to devote their time to research work. Unfortunately, however, few men have the time and money necessary for the pursuit of investigations which are in themselves unprofitable from a monetary point of view, and the Royal Society of Medicine is to be congratulated on having instituted grants in aid of scientific research in connexion with dentistry. These grants are available at all the dental and medical schools in the United Kingdom. The regulations can be obtained from the honorary secretary of the Odontological Section of the Royal Society of Medicine, 15, Cavendish-square, London, W.

THE SUCCESS OF FRENCH TEMPERANCE LEGISLATION.

IN the spring of 1906 we published a series of special articles on temperance legislation in France.[1] Both the French Government and the Paris municipality had resolved to carry into practice the resolutions adopted by the International Congresses of Hygiene in regard to alcoholism. The principle advocated was to combat the consumption of spirits by providing what is termed hygienic drinks at the lowest price possible. This includes all natural wines that have not been fortified or brandied, and pure beer, cider, or perry. On the other hand, spirits such as brandy, gin, whisky, or absinthe, could not be taxed too heavily. Therefore, while taxation on spirits was increased, almost every form of taxation, whether local or national, was removed from natural wines. The city of Paris suffered far and away the greatest financial loss, as it derived a large part of its income from town dues levied on wine and beer. The revenue from *octroi* duties throughout France on hygienic drinks was estimated at £3,466,440, of which the Parisians paid nearly two-thirds. At 10 fr. 62 c. per hectolitre the *octroi* duty on wine yielded £2,050,000 to the income of Paris. Now other taxes have had to be invented to replace this enormous sum, and we were subsequently able to buy wine at 2*d.* the litre in Paris. This wine, analysed in our laboratory, did not of course possess the bouquet, but it had the same composition of high-class and expensive clarets, though it only cost, at the retail price, 1½*d.* per English pint. It was cheaper than beer, and the argument is that when people can get good, wholesome, natural claret at a very low price, they will not drink any large amount of spirits, and therefore drunkenness will disappear. There is little or no drunkenness in wine-growing countries, where wine can be obtained for the asking. Still, the abolition of all taxation was considered a bold experiment. Last week, however, our Paris correspondent sent us the glad news that the venture has proved a great success. Dr. Jacques Bertillon presented 33 diagrams to the Academy of Moral and Political Sciences on Sept. 30th. These related to the consumption of spirits

[1] THE LANCET, March 10th (p. 709), 24th (p. 863), and April 7th (p. 994), 1906.

in as many large towns. Formerly the consumption of distilled spirits was almost the same in all these towns, and varied from 7 to 8 litres of absolute alcohol per head per annum. In the rural districts it was 2·84 litres. To-day, however, with wine so much cheaper, the consumption of spirits has greatly decreased, and the larger the town the greater the reduction. Thus in towns of 4000 to 10,000 inhabitants the figure had fallen to 6 litres, but in towns with a population of over 90,000 the consumption of alcohol now only amounts to 4·23 litres per head. This is a reduction that in some cases must be equal to close upon 50 per cent. and for the larger towns always exceeds 40 per cent. Nor is this an experiment made on a small scale with a group of people, a town or district. It has been carried on now for five or six years by a great nation on a population of 40,000,000 people, descended from different races, living in different climates and according to a great variety of local customs. It is rare, indeed, that such a wholesale experiment can be made, nor do we often obtain such encouraging results. With the quick and easy means of transit that exist there is no reason why we should not have in England claret as good and as cheap as that obtained in the northern non-wine-growing parts of France. The distance may be a little longer, but transit by sea is cheaper than by rail. This year wine is very dear, about 4½*d.* to 5*d.* a litre; but this has been an altogether disastrous and exceptional year. As a rule, excellent new and natural wine can be bought at the vineyard for about 2*d.* the litre.

WE regret to learn the death of Dr. W. R. Huggard, the well-known physician and British Consul at Davos.

Public Health.

ANNUAL REPORTS OF MEDICAL OFFICERS OF HEALTH FOR 1910.

City of Glasgow.—Dr. A. K. Chalmers includes in his report an instructive chapter on isolation hospitals, with special reference to their use for whooping-cough and measles. The mortality from both these diseases in Glasgow has long been persistently high, as the following figures show:—

Death-rates per 100,000 of Population in Glasgow and the Rest of Scotland Respectively.

	1855-64.	1865-74.	1875-84.	1885-94.	1895-04.	1905-8.
Whooping-cough.						
Glasgow	164	136	133	106	86	76
Rest of Scotland ...	54	49	52	49	42	36
Measles.						
Glasgow	89	85	63	77	64	56
Rest of Scotland ...	36	31	28	39	34	27

This excessive mortality is also brought out when the Glasgow rates are contrasted with those of certain English cities, which are fairly comparable in point of population and industrial pursuits. During the ten years 1898–1907 the average death-rates from whooping-cough in Liverpool, Manchester, and Birmingham were respectively 48, 44, and 44, against 80 in Glasgow, and from measles 49, 61, and 41, against 57 in Glasgow. Both diseases tend towards death through lung complications, and a marked difference in the temperature of the winter months might be thought to afford an explanation. But the mean temperature from October to March in Liverpool is 41·7°, in Manchester 43·5°, and in Birmingham 42·9°, against 43·0° in Glasgow. Nor will the presence of a large proportion of children at susceptible ages explain the greater prevalence of these diseases in Glasgow, for the birth-rate in Liverpool in the period in question was greater by 2 per 1000, while that in Manchester and Birmingham was practically identical with Glasgow. In Dr. Chalmers's view the important point in which Glasgow in this matter differs from these English cities is its custom of housing in flatted tenements, which affords greatly increased opportunities of infection from both diseases. It is noteworthy that there is no similar contrast in the relative incidence of enteric fever, scarlet fever, or diphtheria. The latter disease, for the same period, produced a death-rate of 15 per 100,000 in Glasgow, against 25, 18, and 21 in Liverpool, Manchester, and Birmingham. In Glasgow it has for many years been the practice to isolate a substantial portion of the known cases of whooping-cough and measles in the city hospitals. The proportion of cases isolated has remained fairly constant during the last 20 years at some 11 to 12 per cent. of the total known cases of measles, and from 19 to 28 per cent. of the total known cases of whooping-cough. A much larger number of total cases has, however, come under supervision in recent years, and the actual numbers isolated have been correspondingly higher. In 1906–09, for whooping-cough and measles respectively, the average annual total of cases registered was 3644 and 11,501, and the corresponding number of cases treated in hospital was 894 and 1355. In considering the advantages which the hospital isolation may have secured, Dr. Chalmers lays stress on the consideration that although the actual mortality rates from whooping-cough and measles are greater in Glasgow than in the rest of Scotland, the rate at which the mortality has been reduced during the past 50 years has been much more rapid in Glasgow in the case of whooping-cough, and somewhat more rapid also in the case of measles. He also points to the fact that in the cases of both diseases the hospital treatment materially lessens the severity and obviates the danger of sequelæ which, if untreated, may permanently impair the health or physical condition of some of those patients who survive the attack. It is clear that a strong case can be made out from the Glasgow records for the continuation and development of the local practice, and now that various other towns are making similar arrangements for isolation of measles and whooping-cough an additional body of evidence bearing on its utility should be available before long. The use to which the Glasgow city hospitals are now put differs greatly from that of past years. Before 1875 the whole hospital administration was dominated by the demand for the admission of typhus fever, which in some years was the cause of 9 out of every 10 admissions. Before 1900 the demand for accommodation for diphtheria was almost negligible, whereas this disease now furnishes from 12 to 17 per cent. of the total admissions. The proportion of the different diseases exercises an important effect on the nature of the accommodation required. When isolation of whooping-cough and measles cases is principally in question provision should be made for large numbers of convalescents in proportion to the acute cases, and should consist mainly of suitable dormitories, nurseries, and playrooms rather than of hospital wards in the ordinary sense. Some 1600 beds are now available at the city hospitals for all infectious diseases apart from small-pox, but Dr. Chalmers points out that this number needs to be increased if provision is to be made on as large a scale as that now available in London, Edinburgh, and Liverpool. A still more pressing need is the erection of a suitable small-pox hospital on a site sufficiently remote from populous centres.

City of Wakefield.—In course of a well-balanced review of the considerations which a municipality should keep in mind when endeavouring to combat tuberculosis, Dr. T. Gibson lays stress, not only on the usual "housing" reforms, but also on the great value of properly laid out open spaces. Whether the application of the Housing and Town Planning Act will secure such spaces on the outskirts, as the city extends, will be seen in a few years, but at the present time this need is very great in or close to the central and more congested areas. Though the inhabitants of Wakefield have easy access to the country, hundreds of people, especially mothers and young children, seldom wander far from their pent-up habitations and dreary surroundings. Dr. Gibson pleads also for old folks who cannot travel far from their doorsteps. In many parts of the town the necessary vacant spaces exist, and the opportunity should be utilised before they pass into the hands of the builder. In course of the medical inspection of school children, he found in 1909 that 95 out of 1649 (5·7 per cent.) and in 1910 82 out of 1900 (4·3 per cent.) presented some abnormality of the heart, and considers that in some at least of these cases it is specially important that advice as to choice of occupation should be given before the child leaves school. The moorland water from which the public supply of Wakefield

is obtained continues to be treated by filtration and made alkaline by the addition of lime, with results which are stated to be satisfactory as regards purity and ability to act on lead. The samples taken under the Sale of Food and Drugs Acts included 16 prescriptions, of which as many as four contained either an excess or a deficiency of the ingredients prescribed.

Urban District of Beckenham.—Dr. J. M. Clements comments upon the prevalence last year in Beckenham of diphtheria of a mild type, the case mortality being only 3·2 per cent. It would seem that clinically many of the notified cases have merely consisted of trivial sore-throats, which have been pronounced to be diphtheria as a result of bacteriological examination of swabs. The occurrence of nine cases of diphtheria in the Alexandra school in June and July led to the examination of swabs from the throats of 395 children, in 7 of which diphtheria bacilli were found. It was noteworthy that neither the diphtheria cases nor the carriers were limited to one department or to any particular class, but were scattered irregularly throughout the school. The carriers were excluded until negative results were obtained, and no further spread occurred. The arrangements in this district under the diphtheria antitoxin order of the Local Government Board include supply of antitoxin free to local medical practitioners for use in cases of patients and contacts amongst the poorer classes, and the payment to such practitioners of 2*s.* 6*d.* for each patient and contact treated. The district council decided during the year to allow an additional private slaughter-house in Beckenham, but the local residents seem to have prevented its use. Dr. Clements states that the food sold throughout the district reaches a very high standard of purity. It would be useful for future reports to give supplementary information concerning the nature of the foods to which attention has been given during the year, and the particular forms of adulteration or misdescription which the officers concerned have had in view in arranging for the collection and examination of samples.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 77 of the largest English towns, having an estimated population of 16,157,797 persons in the middle of this year, 7557 births and 4707 deaths were registered during the week ending Oct. 7th. The annual rate of mortality in these towns, which had steadily decreased from 21·2 to 15·5 in the six preceding weeks, further declined to 15·2 per 1000 in the week under notice, and was 1·4 per 1000 below the mean annual rate recorded during the third quarter of the present year. In London the death-rate last week was equal to 15·0 per 1000, while the recorded rates in the other large towns ranged from 6·4 in Devonport, 8·3 in King's Norton, and 8·7 in Willesden, to in Burton-on-Trent, and in Coventry to 21·2 in Oldham and in Barrow-in-Furness, 21·6 in Bootle and in Wigan, and 23·9 in Tynemouth. The 4707 deaths from all causes in the 77 towns last week were 97 less than the number returned in the previous week, and included 302 which were referred to the principal epidemic diseases, against numbers decreasing from 2900 to 1056 in the six preceding weeks. Of these 302 deaths, 628 resulted from infantile diarrhœa, 55 from whooping-cough, 46 from diphtheria, 37 from enteric fever, 18 from measles, and 18 from scarlet fever, but not one from small-pox. The mean annual death-rate from these epidemic diseases last week was equal to 2·6 per 1000 against 5·0 and 3·4 in the two preceding weeks. The deaths of infants under 2 years of age attributed to diarrhœal diseases, which had steadily decreased from 2714 to 886 in the six preceding weeks, further declined last week to 628, and caused the highest annual death-rates of 4·5 in Walsall, 5·0 in Warrington, 5·1 in Stoke-on-Trent, and 6·9 in Burnley. The deaths referred to whooping-cough, which had been 55, 61, and 51 in the three preceding weeks, rose to 55 last week, and included 11 in London and its suburban districts, 6 in Leeds, 5 in Derby, 4 in Birmingham, and 4 in Leicester. The fatal cases of diphtheria, which had increased from 27 to 46 in the three preceding weeks, were again 46 last week; 14 deaths were recorded in London and its suburban districts, and 3 each in Portsmouth, Stoke-on-Trent, Liverpool, Preston, and Leeds. The deaths attributed to enteric fever, which had decreased from 41 to 35 in the three preceding weeks, were 37 last week, and comprised 12 in London and its suburban districts, 3 in Huddersfield, and 2 each in Grimsby, Liverpool, St. Helens, and Cardiff. The deaths referred to measles, which had declined from 59 to 19 in the seven preceding weeks, were 18 last week, and was the lowest number recorded in any week of the current year; 4 deaths occurred in London, 2 in Wolverhampton, and 2 in Manchester. The 18 fatal cases of scarlet fever were 3 in excess of the average recorded in the three preceding weeks, and comprised 4 in London, 3 in Stoke-on-Trent, and 2 each in Birmingham, Liverpool, Manchester, and Hull. The number of scarlet fever patients under treatment in the Metropolitan Asylums and in the London Fever Hospital, which had increased from 1327 to 1666 during the five preceding weeks, had further advanced to 1793 on Saturday last; 293 new cases of this disease were admitted to these hospitals during the week, against 264, 240, and 333 in the three preceding weeks. These hospitals also contained on Saturday last 973 cases of diphtheria, 218 of whooping-cough, 169 of enteric fever, and 87 of measles, but not one of small-pox. The 1301 deaths from all causes in London last week were 48 less than the number in the previous week, and included 172 which were referred to diseases of the respiratory system, against numbers steadily increasing from 73 to 149 in the five preceding weeks. The deaths attributed to different forms of violence in the 77 towns, which had declined from 171 to 134 in the four previous weeks, rose again to 156 last week, and 374 inquest cases were registered. The causes of 27, or 0·6 per cent., of the deaths registered in the 77 towns during the week under notice were not certified either by a registered medical practitioner or by a coroner after inquest. All the causes of death were duly certified last week in Leeds, Bristol, West Ham, Bradford, Newcastle-on-Tyne, Nottingham, Stoke-on-Trent, Salford, and in 52 other smaller towns. The 27 uncertified causes of death last week included 5 in Liverpool, 3 in Birmingham, and 2 each in Manchester, Sheffield, Hull, and Tynemouth.

HEALTH OF SCOTCH TOWNS.

In eight of the principal Scotch towns, having an estimated population of 1,710,291 persons in the middle of this year, 825 births and 490 deaths were registered during the week ending Oct. 7th. The annual rate of mortality in these towns, which had been 15·7, 16·7, and 15·2 per 1000 in the three preceding weeks, declined to 14·9 in the week under notice. During the 13 weeks of the third quarter of this year the annual death-rate in these towns averaged 15·2 per 1000, and was 1·4 per 1000 below the mean rate during the same period in the 77 large English towns. The annual death-rates in the Scotch towns last week ranged from 11·6 and 12·3 in Leith and in Paisley to 15·4 in Edinburgh and 19·0 in Dundee. The 490 deaths from all causes in the eight towns were 9 fewer than the number in the previous week, and included 60 which were referred to the principal epidemic diseases, against numbers declining from 134 to 78 in the five preceding weeks; of these 60 deaths, 33 resulted from diarrhœa, 11 from diphtheria, 8 from scarlet fever, 4 from measles, 3 from whooping-cough, and 1 from enteric fever, but not one from small-pox. The mean annual death-rate from these epidemic diseases in the eight towns last week was equal to 1·8 per 1000, and was 0·8 below the mean death-rate from the same diseases in the 77 large English towns. The deaths attributed to diarrhœal diseases, which had steadily fallen from 113 to 52 in the five preceding weeks, further declined to 33 last week and included 26 of infants under two years of age; 16 deaths were recorded in Glasgow, 8 in Dundee, and 4 in Aberdeen. The deaths referred to diphtheria, which had been 10, 5, and 13 in the three preceding weeks, were 11 last week, and included 4 in Glasgow and 2 in Perth. The fatal cases of scarlet fever, which had been 2, 5, and 3 in the three previous weeks, rose last week to 8, and comprised 4 in Glasgow, 2 in Edinburgh, and 2 in Aberdeen. The 4 deaths attributed to measles were 3 in excess of the number in the previous week, and included 2 in Glasgow. The deaths referred to whooping-cough, which had been 12 and 8 in the two preceding weeks.

declined to 3 last week, and comprised 2 in Glasgow and 1 in Aberdeen. The fatal case of enteric fever was registered in Glasgow. The deaths referred to diseases of the respiratory system, which had increased from 41 to 62 in the three preceding weeks, further rose last week to 78, and were 6 above the number in the corresponding week of last year. Of the 490 deaths from all causes in the eight towns last week, 170, or 35 per cent., were recorded in public institutions, and 28 deaths were attributed to different forms of violence. The causes of 10, or 2·0 per cent., of the deaths in the eight towns last week were not specified or not certified; in the 77 English towns the proportion of uncertified causes last week did not exceed 0·6 per cent.

HEALTH OF IRISH TOWNS.

In the 22 town districts of Ireland, having an estimated population of 1,149,495 persons in the middle of this year, 565 births and 431 deaths were registered during the week ending Oct. 7th. The annual rate of mortality in these towns, which had been 20·4 and 18·0 in the two preceding weeks, rose to 19·6 per 1000 in the week under notice. During the 13 weeks of the third quarter of this year the annual death-rate in these Irish towns averaged 18·3 per 1000; in the 77 English towns during the same period the mean annual death-rate was equal to 16·6, whilst in the eight Scotch towns it did not exceed 15·2 per 1000. The annual death-rate last week was equal to 22·1 in Dublin (against 15·0 in London), 17·3 in Belfast, 25·2 in Cork, 7·7 in Londonderry, 20·4 in Limerick, and 19·0 in Waterford; whilst in the 16 smallest of these Irish towns the mean annual death-rate did not exceed 19·0 per 1000. The 431 deaths from all causes in the 22 Irish towns were 35 in excess of the number returned in the previous week, and included 81 which were referred to the principal epidemic diseases, against 122 and 95 in the two preceding weeks; of these 81 deaths, 71 resulted from diarrhœal diseases, 4 from enteric fever, 3 from scarlet fever, 2 from measles, and 1 from whooping-cough, but not one from small-pox or from diphtheria. These 81 deaths from the principal epidemic diseases were equal to an annual death-rate of 3·7 per 1000. The mean rate from the same diseases in the 77 English towns last week was equal to 2·6, while in the eight Scotch towns it did not exceed 1·8 per 1000. The deaths attributed to diarrhœal diseases, which had decreased from 121 to 81 in the three preceding weeks, further declined to 71 last week, and included 66 of infants under two years of age; 33 deaths were recorded in Dublin, 18 in Belfast, and 5 in Cork. The 4 deaths attributed to enteric fever were 1 in excess of the average in the four preceding weeks, and comprised 2 in Dublin and 2 in Belfast. The 3 fatal cases of scarlet fever were equal to the average in the four preceding weeks, and were registered in Dublin, Belfast, and Ballymena respectively. The 2 deaths referred to measles occurred in Newtownards, and the fatal case of whooping-cough in Belfast. The deaths referred to diseases of the respiratory system, which had averaged 43 in the four preceding weeks, rose to 64 last week. Of the 431 deaths from all causes in the Irish towns last week, 139, or 32 per cent., were recorded in public institutions, and 8 deaths were attributed to different forms of violence. The causes of 10, or 2·3 per cent., of the deaths registered in the 22 towns last week were not certified either by a registered medical practitioner or by a coroner after inquest; the proportion of uncertified causes of death in the week under notice did not exceed 0·6 per cent. in the 77 large English towns, but equalled 2·0 per cent. in the eight Scotch towns.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments have been notified:—Fleet-Surgeons: T. T. Jeans to the *Virid*, additional, for the *Dartmouth*; T. C. Meikle to the *Dryad*; and J. A. L. Campbell, to the *Carnarvon*. Staff-Surgeon: G. C. C. Ross to the *President*, for the *Maine*. Surgeons: J. McCutcheon to Chatham Hospital as anæsthetist and radiographer on conclusion of course; R. Connell to the *President*, additional, for three months' special course of study at West London Hospital, and to Plymouth Hospital as anæsthetist and radiographer on conclusion of course; A. B. Marsh to Haslar Hospital; and H. E. Perkins to the *Hibernia*.

2ND LIFE GUARDS.

Captain Evelyn John Hansler Luxmoore, from the Royal Army Medical Corps, to be Surgeon Captain (dated Sept. 27th, 1911).

ARMY MEDICAL SERVICE.

Colonel Alfred Peterkin is placed on retired pay (dated Oct. 2nd, 1911).

Lieutenant-Colonel Herbert J. Barratt, from the Royal Army Medical Corps, to be Colonel, vice A. Peterkin (dated Oct. 2nd, 1911).

ROYAL ARMY MEDICAL CORPS.

Major Herbert I. Pocock to be Lieutenant-Colonel, vice H. J. Barratt, promoted (dated Oct. 2nd, 1911). Major Edgar McK. Williams retires on retired pay (dated Oct. 4th, 1911). Major Arthur O. B. Wroughton, from the Half-pay List, is restored to the establishment (dated Sept. 20th, 1911). Captain Ernest Blake Knox to be Major.

Lieutenant-Colonel W. T. Swan, commanding the Fourth and Fifth Companies of the Royal Army Medical Corps and in charge of the Royal Victoria Hospital at Netley, has been selected for the higher rate of pay under Article 317 of the Royal Warrant. Lieutenant-Colonel S. Hickson has taken over medical charge of the Cambridge Hospital at Aldershot. Lieutenant-Colonel S. C. Chilson, commanding the Station Hospital at Bareilly, has arrived home on leave of absence. Lieutenant-Colonel J. Donaldson, in medical charge of the Infectious Diseases Hospital at Aldershot, has been detailed by the War Office for a tour of service in South Africa and will embark during the coming trooping season. Lieutenant-Colonel W. H. Starr, on return from a tour service in Burma, has taken up duty at the Military Hospital, Lichfield. Major A. O. B. Wroughton, on return from leave of absence on medical certificate on half-pay, has been appointed to the Eastern Command for duty. Major H. O. B. Browne Mason has been appointed Specialist in Dermatology and Venereal Diseases to the Sixth (Poona) Division by the Principal Medical Officer of His Majesty's Forces in India. Major O. L. Robinson has been transferred from Kirkee to the Station Hospital at Poona for general duty. Major F. J. Brackenridge, specialist in state medicine, has been appointed to the medical charge of troops at Oxford. Major S. A. Archer has arrived home on leave of absence from Jullundur. Captain G. Baillie has joined the London District for duty on return from the West Coast of Africa. Captain E. Scott-Worthington, M.V.O., has been struck off the strength of the London District and has taken up duty as medical officer on the staff of H.R.H. the Duke of Connaught, Governor-General of Canada. Captain F. Forrest, stationed at Bangalore, has been granted eight months' leave of absence home from India. Captain F. J. Stuart has been transferred from the Eighth (Lucknow) Division to the Seventh (Meerut) Division as Specialist in Dermatology and Venereal Diseases. An exchange of position on the roster for service abroad has been sanctioned by the War Office between Captain A. F. Weston and Captain A. H. McN. Mitchell. Captain P. Davidson, D.S.O., has been appointed Company Officer at the Royal Army Medical Corps Depôt, Aldershot. Captain E. W. Powell and Captain A. H. Safford, specialists in the prevention of disease, have resumed charge of the Brigade Bacteriological Research Laboratories at Aden and Fyzabad respectively. Captain F. A. McCammon has been granted one month's extension of his leave of absence home from India. Captain E. V. Aylen has been transferred from the First (Peshawar) Division to the Second (Rawal Pindi) Division, and appointed Specialist in Dermatology and Venereal Diseases in succession to Captain D. de C. O'Grady, who has taken up duty at Peshawar in the same capacity. Captain D. S. Skelton and Captain J. E. Powell have been posted to the Northern Command for duty. Captain F. M. M. Ommanney, company officer of the 9th Company Royal Army Medical Corps, Colchester District, has been granted leave of absence preparatory to joining the Royal Army Medical College, London, for the promotion course for Captains commencing on Nov. 1st next. Captain H. B. Connell, on the termination of leave granted for duty on the

West Coast of Africa, has been appointed to the Irish Command and posted for duty at the Royal Infirmary, Phœnix Park, Dublin. Captain C. R. Sylvester Bradley has been appointed a Specialist in Physical Training and posted for duty to the Military Hospital at Cosham on completion of the course for promotion held recently at the Royal Army Medical College, London. Lieutenant F. W. M. Cunningham, from the Curragh, has taken up duty at Donard Camp. Lieutenant M. J. Williamson, from medical charge of the 18th Hussars at Hamilton Camp, Salisbury Plain, has been posted to the Military Hospital at Tidworth. Lieutenant E. C. Stoney has joined at Colchester on the return of Major C. W. Allport to the medical charge of the Military Hospital at Great Yarmouth.

INDIAN MEDICAL SERVICE.

Lieutenant-Colonel C. N. C. Wimberley has been selected by the Commander-in-Chief in India for appointment as Staff Officer of Medical Mobilisation Stores to the Sixth (Poona) Division, in succession to Major T. A. Granger, whose tenure of the appointment has expired. Lieutenant-Colonel Lloyd-Jones has taken up duty as Assay Master in the Bombay Mint in succession to Lieutenant-Colonel A. Milne, who has retired from the service. Lieutenant Colonel E W. Hore, second class agency surgeon, Bengal Presidency, has been granted six months' leave of absence home from India. Lieutenant-Colonel A. Street, on expiration of his leave of absence, has been permitted by His Majesty's Secretary of State to return to India for duty. Major R. F. Baird, from Mainpuri, has been selected to succeed Major R. G. Turner as Civil Surgeon at Gonda during the latter's absence on leave. Major W. Lethbridge, in medical charge of the Mewar Bhil Corps, has been granted one month's leave of absence. Major W. H. Kenrick, on special duty in connexion with the investigation of malarial fevers in India, has been attached to the office of the Sanitary Commissioner of the Central Provinces. Major J. Penny has been granted six months' extension of leave on medical certificate. The services of Captain G. Holroyd have been placed at the disposal of the Government of Bengal as a temporary measure for employment in the Jail Department of the Bengal Presidency. Captain A. D. White, officiating resident surgeon at the Medical College, Calcutta, has been selected for appointment as Second Resident Surgeon in the Presidency General Hospital, Calcutta, during the absence on deputation of Captain J. Masson. Captain H. E J. Batty has taken up duty as Civil Surgeon in the Malakand District, relieving Captain C. H. Cross. Captain A. Cameron has been appointed District Plague Medical Officer at Delhi. Captain Lee Abott has relinquished charge of the Ferozopore Central Jail. The services of Captain M. F. Reaney have been placed permanently at the disposal of the Honourable the Chief Commissioner of the Central Provinces. Captain R. B. Nicholson has been selected for appointment as Medical Officer to the 36th Jacob's Horse. Captain E. J. C. MacDonald has taken up duty as District Plague Medical Officer at Gurgaon.

TERRITORIAL FORCE.

Honourable Artillery Company.

Surgeon-Major Edward H. Myddelton-Gavey resigns his commission, retires into the Veteran Company, and is granted permission to retain his rank and to wear the prescribed uniform (dated Oct. 4th, 1911).

Yeomanry.

Royal East Kent (The Duke of Connaught's Own Mounted Rifles) Yeomanry: Surgeon-Lieutenant Campbell T. Fox to be Surgeon-Captain (dated August 26th, 1911).

Royal Engineers.

2nd London Divisional Engineers, Royal Engineers: Surgeon-Major William H. Bourke resigns his commission and is granted permission to retain his rank and to wear the prescribed uniform (dated Oct. 4th, 1911).

Infantry.

4th Battalion, The Welsh Regiment: Surgeon-Lieutenant William R E. Williams to be Surgeon-Captain (dated July 30th, 1911).

4th Battalion, The Oxfordshire and Buckinghamshire Light Infantry: Surgeon-Major Julius O. Sankey retires, under the conditions of Paragraph 116 of the Territorial Force Regulations, and is granted permission to retain his rank and to wear the prescribed uniform (dated Oct. 7th, 1911).

Royal Army Medical Corps.

1st Home Counties Field Ambulance, Royal Army Medical Corps: Lieutenant Sidney W. Milner resigns his commission (dated Oct. 4th, 1911).

1st London (City of London) Field Ambulance, Royal Army Medical Corps: Lieutenant Arthur Donald John Bedward Williams, from the List of Officers attached to Units other than Medical Units, to be Lieutenant (dated Sept. 7th, 1911).

2nd Eastern General Hospital, Royal Army Medical Corps: Hugh Nethersole Fletcher to be Captain (dated Oct. 4th, 1911). Frederick Arundel Stewart Hutchinson to be Captain (dated Oct. 4th, 1911).

1st Western General Hospital, Royal Army Medical Corps: Captain Robert C. Dun resigns his commission (dated Oct. 7th, 1911).

For Attachment to Units other than Medical Units.—Horace Guy Lankester Haynes (late Cadet Sergeant, Cambridge University Contingent, Senior Division, Officers Training Corps) to be Lieutenant (dated June 18th, 1911). Robert Craig Dun (late Captain, 1st Western General Hospital, Royal Army Medical Corps) to be Lieutenant (dated Oct. 7th, 1911).

Attached to Units other than Medical Units.—Captain David Walker to be Major (dated July 27th, 1911). Supernumerary Lieutenant David A. Hughes to be Captain (to remain supernumerary) (dated July 28th, 1911) Captain Herbert Meggitt resigns his commission (dated Oct. 7th, 1911). Captain Alexander H. Pirie resigns his commission (dated Oct. 7th, 1911). Captain John Forbes resigns his commission (dated Oct. 7th, 1911). Captain Charles Ernest Goddard, from the 1st London (City of London) Sanitary Company, Royal Army Medical Corps, to be Major (dated July 3rd, 1911).

The undermentioned officers resign their commissions (dated Oct. 4th, 1911):—Captain George R. F. Stilwell. Lieutenant Herbert P. S. Devitt.

EXAMINATION FOR COMMISSIONS IN THE ROYAL NAVY MEDICAL SERVICE.

The next examination of candidates for Commissions in the Royal Navy Medical Service will be held at Examination Hall, Thames Embankment, on Nov. 20th next and following days, when 15 Commissions will be offered. The regulations for entry and the form to be filled up by candidates will be supplied on application to the Medical Director-General, Admiralty, S.W.

JOURNAL OF THE ROYAL ARMY MEDICAL CORPS.

A short article in the October issue of the above journal which will be read with much interest reviews the Manuals of Physical Training in Germany, Austria, and Great Britain. The author, Captain J. A. Black, compares the methods of physical training in use in the armies of the different countries mentioned, and points out the direction in which our own system of physical training might be amplified. Incidentally Captain Black expresses the opinion that swimming should be taught in our army, and he appears to think that the addition of a swimming bath to every gymnasium is a counsel of perfection which is not likely to be realised. It is difficult, however, to imagine on what grounds the authorities could refuse to sanction so important an addition to the means for physical training, and for securing cleanliness, in the army. Captain Black's remarks on "obstacle training" deserve careful attention, as they not only show that training in the gymnasium in this connexion may be for all practical purposes useless, but also point out how the exercises if they are to be effective should be carried out. Lieutenant-Colonel C. H. Melville adds a note dealing with a new issue of *Turnvorschrift für die Infanterie* (Manual of Physical Training for Infantry), at the conclusion of which he says: "It is interesting to note that we who as a nation have always prided ourselves on getting our physical training out of our games should now be turning to formal exercises for that purpose, while the leading military nation on the continent is showing a distinctly opposite trend." The report on "An Experimental March to Investigate the Amount of Food Required by Men on Active Service" is continued.

Correspondence.

"Audi alteram partem."

THE NATIONAL INSURANCE BILL.

To the Editor of THE LANCET.

SIR,—In the *Daily News* of Oct. 3rd Dr. Macnamara was reported as having said to the Old Kent-road Brotherhood that he had received a letter from Mr. Lloyd George on the Insurance Bill, in which the Chancellor of the Exchequer stated: "You may tell your friends in London that the Government means to press the Insurance Bill through during the autumn session. There is no idea of abandoning any part of it. We shall stand or fall by it as a whole. The suggestion that we should at this stage divide the benefits—carry a third of them on to the Statute Book this session and postpone the rest—is a particularly fatuous one. No one who knows anything about the Bill or its history could ever have made such a proposal. Parliament has already after weeks of discussion settled the benefits. When we meet we shall proceed to a consideration of the machinery of distribution and control." If, therefore, the Bill is to be thrust through in its present form, as the Chancellor of the Exchequer seems to imply, it is now necessary to survey the position of the measure in so far as it affects the medical profession, and the degree in which the demands of that profession have been met.

These demands were definitely formulated in the six points which were laid down in the circular of June 3rd of the British Medical Association submitted to Members of Parliament by numerous deputations. The six points demanded were:—

1. An income limit of £2 a week for those entitled to medical benefit.
2. Free choice of doctor by patient, subject to consent of doctor to act.
3. Medical and maternity benefits to be administered by Local Health Committees and not by Friendly Societies.
4. The method of remuneration of medical practitioners adopted by each Local Health Committee to be according to the preference of the majority of the medical profession of the district of that committee.
5. Medical remuneration to be what the profession considers adequate, having due regard to the duties to be performed and other conditions of service.
6. Adequate medical representation among the Insurance Commissioners, in the Central Advisory Committee, and in the Local Health Committees, and statutory recognition of a Local Medical Committee representative of the profession in the district of each Health Committee.

So far as the Bill at present stands, though in many cases the amendments adopted in committee are conflicting, very little real concession has been granted.

1. The only income limit in the Bill is that of the income tax—namely, an income of £160 per annum—although Local Health Committees are empowered at their discretion to fix an income limit, and persons whose income exceeds this limit are to make their own arrangements for medical attendance and treatment. The £2 per week income limit suggested by the British Medical Association was rejected, and all that has been secured is a limit which may vary under different local conditions.

2. The principle of the free choice of doctor, "subject to consent of doctor to act," has been conceded, but unless the wording of Clause 14, Section 1, Subsection 2 (d), be amended, the doctor will have no option of refusal. The passage runs as follows: (Local Health Committees are to adopt such system as will secure) "the distribution amongst and, so far as practicable, under arrangements made by the several practitioners whose names are on the lists of the insured persons who, after due notice, have failed to make any selection, or who have been refused by the practitioner whom they have selected." The importance of this provision cannot be over-rated, and must in any case afford ground for constant disputes. The reasons for rejection by practitioners are obvious—age, chronic ill-health, residence at an extreme distance, any of these form a valid ground for rejection of attendance on the ordinary terms. Yet I can find no instructions to the local committees to allow any increase of fees for attendance on such persons, and there is a just fear that practitioners will find it impossible to refuse such cases, under the present wording of the provision. The words, "so far as practicable," are obviously capable of meaning nothing at all.

3. The removal of the control of medical benefits from the hands of Friendly Societies has been, in effect, very partially allowed, although the principle was carried by a large majority in Parliament. Not to mention the large representation of the Friendly Societies on the Local Health Committees, the Bill as it now stands contains a section of Clause 14—namely, Section 4, which provides that any system or organisation providing medical attendance and treatment and existing at the time of the passing of this Act if approved by the Local Health Committee and the Insurance Commissioners may be maintained. This section obviously covers the case of all existing medical clubs and associations. Thus it would seem that the Friendly Societies may still retain control of their medical benefits and their medical officers, and therefore the principle of the removal of control is largely nullified.

4 and 5. These two points dealing with the method and amount of remuneration are not considered in the Bill. If we may judge from the example of the Vaccination and Poor-law Acts the matter will be left in the hands of the Local Health Committees, though without the legal minimum of payment which at present exists in the case of vaccination; and it is quite evident that not much is to be expected in the way of support from the Insurance Commissioners when any demand for an increase in pay is made.

6. This point, dealing with adequate medical representation, has been nominally granted, though what the Government's idea of the meaning of the word "adequate" is remains to be seen. At present we only know that the medical profession will be represented on administrative bodies.

From this survey of the position as it is at present it is plain that the demands of the British Medical Association have been granted only to a very limited extent. Those points which are dealt with in the Bill—namely, points 1, 2, 3, and 6—are treated in such a way that what is given with the one hand is largely taken away with the other. The remaining points—namely, 4 and 5—dealing with the method and amount of remuneration, are left on one side, the Chancellor of the Exchequer's probable intention being to remit the matter to local administrative bodies. In this way the medical profession may be fought in scattered detachments, and it will be necessary for the medical profession (if the rank and file are to preserve the power of making a competent livelihood) to offer an obstinate resistance. What may be called the staff organisation of the profession has, I consider, already been out-generalled in the engagements which have at present taken place. It is now necessary for the units composing the medical forces—namely, the various local bodies of medical men—to see that in the probable forthcoming fights with local administrative bodies a strenuous resistance is offered to those whose wish it is to exploit the labours of the medical profession.

I am, Sir, yours faithfully,

Westerham, Kent, Oct. 6th, 1911. ARTHUR MAUDE.

To the Editor of THE LANCET.

SIR,—Will you permit me to make a short reply to the letters you have published criticising my suggestion as to a State Medical Service? I gather from these letters that there are only three alternatives to control by the State—1. That the profession should be controlled by Friendly Societies, either themselves or under the name of Health Committees, and should be left in each separate district to bargain with them as to remuneration. 2. That with the control of Health Committees fees should be paid for each separate attendance on persons insured. 3. That the medical benefits under the Bill should be dropped, leaving the people without any medical attendance except as at present in force.

1. I have pointed out the disadvantages of the question of remuneration being left open, and I purposely did not allude to the proposed medical representation on the Health Committees, as I thought it was clear to everyone that one or two medical men on a committee composed of representatives of Friendly Societies, local boards, and insured persons could have no weight, and in fact would not be listened to on a question of medical remuneration. 2. The suggestion of payment by fee for each attendance is a delightful dream, but purely Utopian and out of the range of practical politics, as it would land the Insurance Fund in bankruptcy in the

first year. 3 The proposal to drop the medical benefits is to my mind unthinkable; the great feature of this magnificent measure is the giving of full and sufficient medical service to people who have never been able to afford it, so that the health and therefore well-being of the nation shall be immensely increased.

I cannot see any objection to control by a department of the State which would consider the representations of medical men, Friendly Societies, and all others interested, but would be responsible for the appointment of medical officers and for an efficient and up-to-date medical service; nor can I see any chance of such a service degenerating into a glorified version of the present Poor-law Medical Service, which is condemned on every side and has but a short lease of life. I am, Sir, yours faithfully,

South Hampstead, N.W., Oct. 7th, 1911. ALBERT BENTHALL.

THE NOMENCLATURE OF SPINAL DEFORMITIES.

To the Editor of THE LANCET.

SIR,—It appeared to me that in his article of Sept. 2nd Mr. R. Timberg was particularly careful in his terminology when dealing with lateral curvature of the spine, and herein my impression differs from that of Mr. Paul B. Roth. I do not agree with Mr. Timberg's explanation of the cause of rotation of the vertebræ in lateral curvature, but I am very certain that he recognises the three distinct stages through which a lateral curvature passes, and a consideration of these three stages will do much to bring about that unity of expression which his critic advocates.

The first stage is that in which the spine assumes a lateral curve without any rotation. Experiments upon the cadaver have shown me the all-important influence of the presence of the ribs in the dorsal region upon the commencement of rotation, and that this first stage is limited by the amount of play in the costo-vertebral articulations. When this play has been taken up on the convex side of the curve the tubercles of the ribs on that side become firmly applied to the tips of the transverse processes of the vertebræ, with the result that further lateral movement of the posterior part of the column is resisted and a rotation is initiated which the forces bending the column outwards are bound to increase. This first stage must not be called skoliosis—there is no rotation or "twisting," and it is correctly alluded to by Mr. Timberg as "lateral deviation."

The second stage is that in which rotation and further side movement of the spine are accommodated by the general mobility of the thorax derived from the elasticity of the ribs and of their cartilages. The third stage commences when the extent of the said elasticity of the thoracic cage is reached, so that the ribs yield to prolonged and increasing pressure, and permanent bending, leading to fixation of the deformity, takes place. Both second and third stages are correctly termed skoliosis.

Bearing in mind these three stages, Mr. Timberg's meaning in the two following sentences is surely very clear: "At first it is merely a lateral deviation, but an added rotation of the interested vertebræ will soon convert it to a more or less fixed scoliosis." "The simple lateral deviation is generally easily amenable to treatment; and a curve in the second degree of severity—i.e., a true scoliosis, but not yet fixed—is, in favourable circumstances, capable of perfect recovery."

These three stages in the progress of a lateral curvature constitute the anatomical foundation of a classification of cases which may be set forth as follows:—Grade I.: Those in which the spine may be straightened out to normal by posture. Grade II.: Those in which the spine may be straightened out to some extent by posture, but in which some measure of the deformity still remains owing to bony displacement being maintained by muscular and ligamentous shortening. Grade III.: Those in which the deformity is so confirmed that radical changes in the shape of the ribs, and inferentially of the vertebræ, are palpable, and in which the alteration produced by posture is inconsiderable. These three grades pass imperceptibly one into the other, and the borderland between Grades II. and III. presents some cases occurring in patients of the "rigid" type, of which a correct estimate cannot be formed until the thoracic cage has been rendered mobile by means of suitable exercises. But, with experience in examination, there is little difficulty in relegating any one case to its proper grade; the distinction is about as definite as that between degrees of burn. Here, then, we have an example of a clear and rational way out of complex terminology, and I suggest that we follow the method adopted long ago by the Berlin school and classify our cases of lateral curvature as of Grade I., II., or III., as the case may be.—I am, Sir, yours faithfully,

J. S. KELLETT SMITH.

Cavendish-place, W., Oct. 9th, 1911.

LIGATURE OF THE SPERMATIC ARTERY IN THE OPERATION FOR VARICOCELE.

To the Editor of THE LANCET.

SIR,—In an annotation on this subject in your last issue (Oct. 7th, pp. 1026-1027) you infer that Dr. E. Styles Potter by including in his ligature the spermatic artery as well as the veins is peculiar in his practice. This is not so. The great majority of surgeons like him do not trouble to exclude the artery from their ligature. To ligature the artery as well as the veins is the better practice; as by removing some veins only and not occluding the artery, a few veins alone are left to carry off the whole of the blood brought to the testicle by the spermatic and deferential arteries. Whilst if the spermatic artery is ligatured at the same time that the spermatic veins are removed there will be less work to do for the veins left behind as there will be less blood reaching and to be borne away from the testicle.

This balance between the entrance and exit of blood from the testicular area is upset by the operation for varicocele. But it is far less upset if the spermatic artery is ligatured with the veins than if it is left unoccluded. The clinical expression of the disturbance of this balance is the occurrence of œdema of the scrotum and hydrocele of the tunica vaginalis. On p. 279 of my "Male Diseases in General Practice" (Oxford Medical Publications) the results of the operation for varicocele are tabulated, and it will be noticed that hydroceles in some form were found in no less than 23 per cent. Thickening of the scrotal tissues was found in 50 per cent. of cases. Hence, it is obvious that the ordinary operation for varicocele with occlusion of the spermatic artery does disturb the "circulatory balance" of the testicular area. As a result of this knowledge, I now invariably whilst operating for varicocele draw the testicle into the wound and turn the tunica vaginalis inside out. This additional procedure—extroversion of the tunica vaginalis—has been most successful in lowering the percentage of the occurrence of hydrocele after varicocele operations.

You, Sir, state that Dr. Styles Potter designs to ligature the spermatic artery alone for varicocele. This has been done experimentally and with disastrous results to the physiological active tissues of the testis. Moreover, it produces venous engorgement of the testicular area by cutting off the main source of pressure, the arterial pressure, which drives the blood through the testicle and veins towards the heart. Hence ligature of the spermatic artery by itself is a far more disturbing procedure on the circulatory balance of the testicular area than the operation for varicocele as ordinarily practised, removal of part of the spermatic artery and many of the spermatic veins. In addition to this proceeding I would urge that extroversion of the tunica vaginalis be also done in every case. Stoppage of the blood-stream by atheroma inhibits what may be called the *vis a tergo* of the testicular circulation leading to venous engorgement, chronic inflammation, and, I believe, to the hydroceles of the men of, say, over 40. Atheroma of the spermatic arteries is the first stage of the involution of the testicles.

I am, Sir, yours faithfully,

Harley-street, W., Oct. 7th, 1911. EDRED M. CORNER.

TOXIC EFFECT OF ASPIRIN.

To the Editor of THE LANCET.

SIR,—I would suggest to Dr. A. Brown that he try the effect of gr. v. of aspirin *in suspension* in the case in which a tablet of similar composition produced urticaria. I have not infrequently been told by patients that tablets of aspirin had caused fairly acute epigastric pain, but I have never had any similar complaints when the aspirin has been taken in suspension. The result of giving aspirin in suspension in

Dr. Brown's case would be of interest, not only in connexion with the toxicology of aspirin, but also in the more important and much-debated question—the etiology of urticaria.

I am, Sir, yours faithfully,

Brook-street, W., Oct. 9th, 1911. J. BRUNTON BLAIKIE.

NOTE ON TWO CASES OF TUMOUR OF THE PREFRONTAL LOBE IN CRIMINALS.

To the Editor of THE LANCET.

SIR,—Dr. W. C. Sullivan, under this title in THE LANCET of Oct. 7th, p. 1004, relates two cases of tumour of the prefrontal lobe. It would be interesting to know whether it was known if the patients were right- or left-handed, especially in the first case, in which a growth involved the left inferior frontal convolution without aphasic symptoms. In this latter case was any of the cortex left intact between the growth and the precentral sulcus?

I am, Sir, yours faithfully,

Cheltenham, Oct. 6th, 1911. A. E. TAIT, M.B. Edin.

THE INHERITANCE OF SYPHILIS.

To the Editor of THE LANCET.

SIRS,—On several occasions, and notably in the discussion on "Inherited Syphilis" before the Society for the Study of Disease in Children,[1] I have expressed the opinion that what we in England call congenital syphilis (hereditary syphilis of continental writers) was derived from the mother, and that there was no proof of direct paternal infection. Matzenauer in his exhaustive monograph, "Die Vererbung der Syphilis,"[2] has dealt with the matter in a most thorough manner. On the continent direct paternal infection is usually accepted as a matter of course, as a reference to text-books on syphilis will show. My object in again referring to the subject is to call attention to the opinion expressed by M. Jeanselme, a very careful observer, in a recent monograph on syphilis from the points of view of etiology and prophylaxis.[3] This is what he says: "En somme, dans l'immense majorité des cas, sinon dans tous, l'enfant tient la syphilis de sa mère." Such an opinion coming from a French expert is very important, for the paternal view is practically unchallenged in France. Dr. Carle of Lyons has also recently dealt critically with the subject of the direct paternal influence,[4] and relates an instructive instance of the ease with which an erroneous *paternal* conclusion may be arrived at. The matter is of interest as it must, to some extent, affect our views as to the length of time that should elapse between infection and marriage in the case of males. I do not propose to enter here into the various aspects of the subject, but would merely point out that in many cases the interval has been a much shorter one than that usually recommended by the medical man, patients (males) taking the law into their own hands without any untoward results ensuing, either as regards the female or her progeny.

I am, Sir, yours faithfully,

London, W., Oct. th, 1911. GEORGE PERNET, M.D.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Opening of the Medical Session: the Scope of Anatomy.

Professor G. Elliot Smith on Oct. 2nd gave the inaugural address at the opening of the medical session. The title of the lecture, "The Present Position and Scope of Anatomy," was sufficiently wide and comprehensive, and enabled the lecturer to deal in an attractive manner with the prospects of the science as a subject for the instruction of medical students. Certain reforms in the teaching of anatomy—"an ancient and royal study, with a very long tradition behind it"—were suggested. Ancient though its lineage might be, it could only be brought into a proper relation with other subjects of the medical curriculum by throwing off the trammels of its past. In many respects present-day methods of teaching anatomy were appropriate only to the surgery of a hundred years ago or more. It was necessary to break away from tradition and to teach students the anatomy which would be useful to them. According to Professor Elliot Smith there are still far too many lectures, from which the student can learn little more than from an efficient text-book. Of text-books in anatomy there are enough and to spare. Lectures on the bones left the student with nothing but disgust for the whole subject of anatomy, his initial "considerable enthusiasm" disappearing very rapidly. The sort of knowledge which is needed in the student of anatomy is a complete grasp of locality—the formation of a visual picture of anatomical structures. The student should be guided to do his practical work thoroughly. There were, however, the general principles of the science which would always have to be explained in lectures. The tradition of the Manchester school had been to keep before the student the practical application of the science, and in this connexion the lecturer dealt with the interesting subject of surface anatomy. Finally, Professor Elliot Smith mentioned the reforms which had been adopted on the continent in the teaching of this subject. The point of view of the reformers was that anatomy should be based on embryology. Anatomists must demand as their field the whole of anatomy, not mere gross human anatomy, but also fine microscopic anatomy which had been taken over by the physiologists. He thought that the physiologists would gain considerable advantage from their own point of view if they gave up histology entirely to the anatomists. Reference was made to the intimate relations between art and anatomy.

Life in Motion.

The lecture delivered by Professor W. Stirling, introductory to the course of lectures on Physiology, was entitled "Life in Motion." By means of the cinematograph the lecturer showed how cinematography could be used in schools, colleges, and universities to visualise many phenomena which the student may not have an opportunity for seeing for himself. To illustrate the application of the cinematograph to biological problems the lecturer showed a number of films on such subjects as imitations of amœboid movement, the rhythmical beating of a globule of mercury, contrasting this with the beating of the excised heart of a rabbit perfused with Locke's fluid, and the arrest of the beat by chloroform, its subsequent recovery, and finally the effects of perfusion of adrenalin on the same heart. The movements of a starfish righting itself, the movements of the tube feet of a sea urchin were also shown; but perhaps the film that most interested the audience was one showing the successive divisions of the eggs of a sea-urchin—the segmentation of the ovum—up to the formation of the pluteus stage. The audience could follow the division of the ovum first into two, then four, eight, 16, until the two layers of the embryo were formed. Many other films were shown, including one made by Dr. Comandon on the protrusion of pollen tubes from the pollen of a lily.

Oct. 10th.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

Opening of the Medical Session.

THE custom, which in the main is an excellent one, of securing the services of some distinguished member of the medical profession to deliver the address on the occasion of the beginning of a new session at the medical schools of the country, was departed from at the University of Leeds this year, and the authorities of the School of Medicine were fortunate in getting Mr. Mark Sykes to undertake the duty. Mr. Sykes, who is one of the Members of Parliament for Hull and a member of a well-known Yorkshire family, has been a great traveller, and was able to speak from his own experience of the habits and of the medical and surgical methods of the nomadic Kurds and Arabs. He gave many interesting illustrations of the singular combination of apparently deep

[1] Reports of the Society for the Study of Disease in Children, vol. viii., 1908, pp. 74 et seq.

[2] Wien, 1903, vide pp. 74 et seq.

[3] Vide Etiologie et Prophylaxie des Maladies Transmissibles par la Peau et les Muqueuses Externes, Traité d'Hygiène, fasciculus xvii., p. 618, 1911.

[4] Influence Comparée des Générateurs dans l'Hérédo-syphilis (Annales de Dermatologie et de Syphilis, tome ii., No. 2, 1911, p. 73).

scientific insight and rank superstition which prevails among these people, and it was interesting and instructive to hear from the lips of an observant layman opinions formed from such premises as to the development of the science and art of medicine. On the influence of the imagination in the processes which lead to the recovery of the patient Mr. Sykes was distinctly amusing; perhaps it may be said that anyone might succeed in being so with such a topic, but Mr. Sykes was also instructive. He correctly grasped the legitimate position of the use of the imagination in therapeutics, and stated it in such a way that probably there are few members of the medical profession who would not be in agreement with his views, or, indeed, who have not acted in harmony with them.

Leeds and West Riding Medico-Chirurgical Society.

The opening meeting of this, the fortieth, session of the Leeds and West Riding Medico-Chirurgical Society takes place on Friday, Oct. 20th, when the chair will be taken by Mr. H. Littlewood, the president for the ensuing year. This society, founded on the old Leeds Medical Club, a small body consisting mostly of the members of the honorary staff of the infirmary, and meeting in succession at one another's houses, has had a flourishing existence and an increasing membership since it assumed its present form. The number of members now amounts to 395. Last session the average attendance at the meetings was 87·7, a number which is creditable when it is considered that a large number of the members are resident in remote parts of the West Riding. During the session 1910–11 the society held 11 meetings—eight ordinary, one pathological, and two clinical. One of the meetings was devoted to a discussion on the diagnosis and treatment of tuberculosis. Most of the meetings are held in the General Infirmary, but, as a rule, the pathological meetings are arranged for at the Medical School.

Appointment of a Third Assistant Physician at the Infirmary.

Some time ago, as was mentioned in this column, a decision was come to to appoint a third assistant physician to the infirmary. It was arranged that his duties should be different in details from those of the other two members of the medical assistant staff, and that the recent rule adopted by the infirmary to the effect that members of the staff should not hold any other honorary appointment involving the charge of beds should not apply to the holder of the new appointment. The object of this special exemption was to permit of there being definitely included as part of his duties the charge of a certain number of beds at the hospital for tuberculosis. Dr. G. W. Watson, who has for some time held the position of assistant physician to the tuberculosis association, has been appointed to this position.

Oct. 10th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Opening of the Winter Session of the Medical Faculty of the University of Liverpool.

THE opening address was delivered on Oct. 3rd at the University by Sir Charles Ball, in the presence of a large and distinguished gathering. In the evening Sir Charles Ball was the principal guest at the annual dinner of the medical faculty, which was held at the University Club, under the chairmanship of Mr. Frank T. Paul, consulting surgeon to the Liverpool Royal Infirmary. There was a large muster of professors and lecturers, besides many local medical practitioners.

Gift to St. Paul's Eye Hospital by Grateful Chinamen.

An interesting ceremony was witnessed at the Town-hall last week, when the Lord Mayor received from a deputation of Chinamen a handsome gramophone with records for presentation to St. Paul's Eye Hospital, to be used by the staff of that institution for the entertainment of the inmates. The attendance at the function included representatives of the Chinese community in Liverpool and of the hospital committee and staff. The happy thought suggested itself to the Chinese community by the kindness shown at the hospital to two Chinamen who had been patients there. They were so impressed by the attention shown to them by members of the staff and the nurses that they conceived the idea of brightening the lives of the inmates by some form of entertainment for the benefit of those temporarily deprived of their sight. The project was warmly taken up by the Chinamen of the city, and within three weeks the funds necessary for the purchase of a gramophone and two dozen records were secured. Mr. G. A. Kirkham expressed the hope that that day's ceremony would strengthen the ties of friendship existing between this country and China, and would help them all to realise that there was only one brotherhood, formed of men of every colour and clime.

Port Sanitary Dispute.

The special committee appointed last year to inquire into the administration of the hospital at New Ferry belonging to the Liverpool port sanitary authority, presented its report to Birkenhead town council on Oct. 4th. The hospital is maintained for the treatment of seaborne cases of cholera, plague, and yellow fever entering the Mersey from foreign ports, and is the joint property of Liverpool, Birkenhead, Bootle, Wallasey, Lower Bebington, and Bromborough. The Liverpool corporation, as having the largest share in the partnership, was given the entire management of the hospital on behalf of the other authorities, who are annually apportioned a share of the cost of management and of the maintenance of the patients. It was said that Liverpool was using the hospital for its own city cases and that patients suffering from small-pox and other infectious diseases belonging to the city were conveyed there by the Wallasey luggage-boats. It was also alleged that the ambulance while on the boat was frequently brought in touch with other vehicles carrying foodstuffs and general merchandise. The port sanitary officials, among whom were the town clerk and medical officer of health, repudiated these allegations. The former wrote explicitly stating that the port sanitary hospital is used only for the accommodation and treatment of *bonâ-fide* seaborne cases, while Dr. E. W. Hope was equally emphatic on the point.

Annual Dinner of North of England Graduates of the University of Dublin.

The annual dinner of the graduates of the University of Dublin resident in the North of England will be held this year in Liverpool. The dinner will take place on Saturday, Oct. 21st, at 7.30 P.M., at the Adelphi Hotel. The Right Hon. Sir Edward Carson, K.C., will preside. The local committee of management expects a large gathering at this popular function.

Retirement of Mr. Arthur Price, M.R.C.S. Eng., H.M. Prison, Walton.

By the retirement of Mr. Arthur Price from the medical officership of H.M. Prison, Walton, the official circles of Liverpool have been deprived of a notable figure. During his lengthy career in the public service he has identified himself with many movements and institutions of a patriotic and civic nature, winning the high regard of all who have at heart the cause of citizenship. Joining the service in 1882 as assistant surgeon to H.M. Convict Prison, Parkhurst, Mr. Price was promoted five years later to the post of medical officer to H.M. Prison at Birmingham, and in 1897 was further promoted to the more important post of medical officer to H.M. prison, Walton, near Liverpool. For a number of years Mr. Price was connected with the Royal Naval Reserve (Volunteers), and was one of the pioneers for the reconstruction of the disbanded Royal Naval Artillery Volunteers, now known as the Royal Naval Volunteer Reserve. He also holds the rank of captain in the R.A.M.C. (T.). Only quite recently he succesfully performed a difficult operation on a dog—a feat which was a tribute alike to his skill and to his courage, in connexion with which he was presented with the medal of the Society for the Prevention of Cruelty to Animals. The dog, in trying to scale some railings, had become impaled on one of the spikes. In its agony it bit Mr. Price, who, however, pluckily stuck to the work of rescue, and ultimately succeeded in releasing the poor animal, which he afterwards surgically treated and restored to health. Mr. Price has also been decorated with the Order of St. John of Jerusalem, a distinction conferred upon him on account of his services, extending over 32 years, as a lecturer on ambulance work in various parts of the country. In the many calls that have been made upon him to deal with and report upon dangerous criminals and lunatics he

has displayed a tact and fearlessness which have won for him the admiration both of the bench and the prison officials.

Oct. 10th.

BRISTOL AND THE WESTERN COUNTIES.

(FROM OUR OWN CORRESPONDENTS.)

The University of Bristol.

ANOTHER session has begun amid change and a certain degree of confusion consequent thereupon, especially in the Faculty of Medicine. Briefly, what has happened is this. The increase of clerical and administrative work entailed by the conversion of University College into the University has necessitated an increase in the staff. Further, the Vice-Chancellor's office had to be found in a building in which it was not originally provided for. Adequate accommodation for the various offices has been secured by converting the wing used till now for the medical school into an administrative block, a step facilitated by the fact that the department of physiology had already been moved thence into the new wing opened in 1909. The only part of the wing, which hitherto has housed the medical school, that remains unaltered is the department of anatomy; the provision of a new dissecting room in any other part of the buildings was so difficult a matter that it was left alone. The principal changes which have been effected are, therefore, the conversion of the medical library into the council chamber, and the alteration of the museum, faculty room, students' room, and the pathology, medicine, and other lecture-rooms into offices. The removal of the library has been managed with considerable dispatch, and the books and periodicals are now housed comfortably in the buildings which formerly belonged to the Blind Asylum, by acquisition of which the University gains a frontage in Queen's-road. This is a main thoroughfare, and in course of time the existing Blind Asylum buildings will be replaced by a newer block more adapted to university requirements. For the present, however, the old asylum premises give convenient accommodation to the Arts and Science Library, and to that of Medicine—in the case of the latter the books find so much more room that it has been possible to set aside separate magazine and reading rooms, as well as a private reading and writing room, for members of the University staff and of the Medico-Chirurgical Society (who are part owners of the library). This removal of the library makes a difference to the meetings of the medical societies, which have hitherto been held in the old library. Last week the local division of the British Medical Association met at the Y.M.C.A. rooms, which are conveniently central, and the opening meeting of the Medico-Chirurgical Society will take place in the physiological lecture theatre of the University. The other great migration is that of the department of pathology to the top floor of the 1909 wing, directly above the department of physiology. The new pathological department will contain the public health laboratory, which until now has occupied an annexe of the old medical school wing, and also the museum, which is to be increased by contributions from the collections at the Royal Infirmary and General Hospital. Here, as in the case of the library, the extent of the accommodation is increased, but at the expense of concentration. Formerly the medical student found the departments of anatomy, physiology, and pathology, the library, and his various lecture-rooms in one compact block; now they are scattered over three blocks at some distance from each other. It remains to be seen what will be the effect of this on the medical school; the entry for this year is a comparatively good one. The annual granting of degrees will take place on Oct. 20th.

Death of Alderman C. B. Hare.

On Oct. 7th Alderman C. B. Hare was walking quietly through the Bristol Industrial Exhibition, which is being held at the Coliseum, when he fell suddenly and died in a few minutes. He was 70 years of age, and had for 40 years been a member of the city council, of which he had for some time been the "father." He served the city faithfully and unostentatiously in many ways, but in none more faithfully than as a vice-president and active member of committee of the General Hospital. Since he joined the committee, 28 years ago, he devoted the greatest energy to the service of the institution. He was particularly valuable as a financial administrator, and as such did a great deal to set the hospital in the enviable position of comparative financial stability which it now enjoys.

Notification of Cerebro-spinal Fever and Poliomyelitis.

Having obtained the consent of the Local Government Board the Bristol city council has issued a notice declaring acute anterior poliomyelitis and cerebro-spinal meningitis to be included within the provisions of the Infectious Disease (Notification) Act, 1889, for six months from Oct. 9th. This step is amply justified, for in the autumn of 1909 the number of cases of the former disease occurring in Bristol was so great as to warrant its description as an epidemic. There seems reason to believe that the total number of cases this autumn will be noteworthy.

The Salaries of Workhouse Medical Officers.

The Bristol board of guardians recently advertised for a medical officer to one of their workhouses at a salary of £100 per annum, with board and rations. No applications were received for the post, and they are now advertising the appointment with an additional £25 salary.

The South-Western Poor-law Conference.

The annual Poor-law Conference of the South-Western District was held at Weymouth on Oct. 5th and 6th, under the presidency of Sir Thomas Dyke Acland, and was largely attended by delegates from all the unions in Cornwall, Dorset, Devon, Somerset, and Wilts. Sir Thomas Dyke Acland, in his presidential address, alluded to the present wretched condition of filthiness and misery to be found among the poor living in the country, and dwelt on the importance of rural housing. A resolution was passed stating that the proposals of the County Councils Association were impracticable, and would not result in any corresponding improvement in administration, and resolutions were also passed in favour of immediate legislation in regard to the treatment of feeble-minded persons, and approving of the principle of combinations in unions for the joint treatment of imbeciles, &c.

Sanitary Inspectors' Association.

The annual meeting of the South-Western Centre (comprising six counties) of the Sanitary Inspectors' Association was held at Weston-super-Mare on Sept. 30th. There was a good attendance. Mr. J. A. Robinson, chief meat and food inspector for the Port of Bristol, gave an interesting address on the Need of a More Comprehensive Inspection of Food. He urged the importance of more uniformity in the inspection of tuberculous meat. He said that the Dairies, Cowsheds, and Milkshops Order had done much to assist in giving a pure and clean milk-supply, and he thought the promised Milk and Dairies Bill would materially strengthen the local authorities in their control over the milk-supply. In mentioning the inspection of "canned foods," he said it would be a great advantage if it were made compulsory to state on the cans the date of manufacture.

Oct. 10th.

WALES.

(FROM OUR OWN CORRESPONDENT.)

Tuberculosis in Cardiff.

THERE has been a steady fall in the death-rate from phthisis in Cardiff during the past 30 years. In 1881 the rate was 3·0 per 1000, and in 1910 it was 1·0 per 1000 of the population. There are, however, certain parts of the borough where the disease appears to be unduly prevalent. In the south ward, for example, where there is a population of about 10,000 persons, the death-rate in 1910 was 2·5 per 1000, and in previous years the rate in this ward has been above that recorded for the whole borough. At the end of 1910 a dispensary for tuberculous patients was opened in Cardiff, two rooms being set aside for that purpose in the basement of the city hall. The assistant medical officer of health, Dr. E. Fairfield Thomas, attended from 6 to 8 o'clock on three evenings in each week and had the assistance of the lady health visitor. During the 11 months ending August last there have attended the dispensary 787 patients. Of this number 20 have died, 11 are reported to be much worse, 32 are said to be stationary, 291 are improved, and 44 are much improved. Tuberculin treatment was carried out only at the end of the

period named. In a report on the whole question, recently issued by the medical officer of health, Dr. E. Walford, it is pointed out that the accommodation available for the dispensary has become entirely inadequate, more especially as the rooms are also used for the examination of school children and for infant consultations. In Dr. Walford's annual report for 1910 on the health of Cardiff, Dr. Thomas expressed the opinion that even by the end of that year the work had become so exacting as to require the whole-time services of a medical officer, for in order to obtain the best results he should visit the homes of the patients who attended at the dispensary.

A Municipal Lodging-house for Women in Cardiff.

The question of providing a municipal lodging-house for women in Cardiff has been actively engaging the attention during many months past of a committee of ladies, with whom Dr. Erie Evans has been prominently associated. The need for such an institution has been demonstrated by the fact that there is in the borough only one registered lodging-house for women, and that contains accommodation for 49. The Salvation Army provides accommodation for 50 more, and in unregistered houses about 100 can be received. As a result of representations which were made by this committee the health committee of the corporation held an inquiry for the purpose of ascertaining whether there was any necessity for such a lodging house, and subsequently recommended that the principle of a municipal lodging house "for women only" should be adopted. After various buildings had been inspected by the medical officer of health and the city surveyor it was decided to rent two centrally situated houses formerly in the occupation of the Salvation Army. Accommodation is proposed for 20 beds. The charge per night is to be 5*d*, and it is estimated that the undertaking will be a charge upon the rates.

Housing Conditions in Gelligaer.

At a recent meeting of the district council very disquieting statements were made with respect to the overcrowding and insanitary state of a large number of houses in the Gelligaer urban district, which adjoins Merthyr Tydfil, and where there was a population at the last Census of 35,000 persons, an increase of over 18,000 since 1901. In one locality there was stated to be an average of eight persons to a house. At a subsequent meeting of the housing committee of the council the medical officer of health, Dr. W. W. Jones, reported the result of his examination of 45 houses in the district of Pontlottyn. Of these he considered that at least 14 were uninhabitable and only three were in a reasonably good sanitary condition, the remainder being capable of repair. Some of the dwellings were nearly 100 years old, and as the leases would soon fall in it was unlikely that the present owners would spend much on their repair. Dr. Jones advised the council to take immediate steps to erect 50 houses, and expressed the opinion that later another 50 would be necessary. The council decided to seek for suitable sites with a view of carrying out the recommendation of the medical officer of health.

Oct. 10th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Veterinary Degrees in the University of Edinburgh.

A SCHEME of coördination has been arranged between the University of Edinburgh and the Royal (Dick) Veterinary College, whereby the degrees of B.Sc. and D.Sc. in veterinary medicine will be awarded. The scheme, which awaits the approval of the Privy Council, provides for one year of study to be spent at the University and four academic years at the Veterinary College.

The Dr. Jessie Macgregor Lecture.

In accordance with the conditions laid down by the trustees of the Dr. Jessie Macgregor Fund, Dr. Agnes Ellen Porter, to whom the prize was awarded this year, delivered a lecture, entitled "A Short Survey of Immunity in Tuberculosis," in the Anatomical Department of the University of Edinburgh on Sept. 29th. The treasurer of the Royal College of Physicians of Edinburgh, Dr. Norman Walker, who introduced Miss Porter, referred to the high standard of the work submitted by the candidates for the prize. The next award will be made in 1914.

Opening of the New Pathological Institute at Glasgow Royal Infirmary.

An important addition to the equipment of the Royal Infirmary, Glasgow, has just been completed, and was formally inaugurated last week by Sir William Osler. This is the new Pathological Institute, which is handsomely housed in a new building and is part of the great reconstruction scheme of the Royal Infirmary itself. Sir William Osler said he wondered if they appreciated in Glasgow the delightful memories that crowded the mind of a man familiar with the story of medicine in Great Britain when the name of their Royal Infirmary was mentioned—memories of men who by their life and doctrine had set forth not alone the very best the profession had had to offer, but the very best that man had ever offered to his fellow men. He commended them for adopting the name "institute." He was sure that the name indicated that they felt the infirmary would bear its share with the University in advancing scientific medicine. For an institute was something more than a deadhouse, and very much more than an ordinary pathological laboratory; it was the cerebrum of the infirmary, the place where the thinking was done, where ideas were nurtured, where men dreamed dreams, and thoughts were materialised into researches upon the one great central problem that confronted the profession in each generation—the nature of disease. Observation, plus thinking, had given them the vast stores of knowledge they now possessed of the structure of the bodies of living creatures in health and disease. There had been two inherent difficulties—to get men to see straight and to get men to think clearly; but in spite of the frailty of the instrument the method had been one of the most powerful ever placed in the hands of man. The institute which they opened that day was a manifestation of the new spirit. In this great field of experimentation and research he cited names of interest in Glasgow, such as Professor Andrew Buchanan and Lord Lister. He then went on to refer to the relations of the infirmary with the University. With two modern hospitals the problem of the relation of their pathological departments to the pathological department of the University had been settled in the only way. In the interest of both institutions the union had been made organic, and the professors of the subject in the University had the same relation to the pathological laboratories of the hospitals as the professors of surgery had to their wards in the infirmaries. In addition he said the institute existed for the benefit of the public. There was not a patient in the wards who would not be helped by the work done in it. From laboratories had come not alone the war-cries of modern medicine, but the chief weapons against the acute infections. In connexion with the realisation of the preventability of infectious diseases, he stated that the sanitary story of the city of Glasgow in the last half century was one of which they might be justly proud. To wipe out typhus, to have made typhoid a last-ditcher, to have cut in half the mortality from tuberculosis, were among the peace victories in which the citizens of Glasgow had shared. In conclusion, Sir William Osler stated that in the field of medicine four great problems awaited solution. In the first place, literally thousands of workers were struggling to unravel the mystery of cancer. Secondly, the exanthems were still with them, still killing thousands, and the world awaited the researches which would reveal the cause of measles, of scarlet fever, and of small-pox. Thirdly, though perversions of metabolism were every day yielding up their fascinating secrets, the sure and certain studies that alone could give control of such common diseases as diabetes, gout, and arthritis were lacking. Fourthly, they were entering a new chapter in the researches upon the internal secretions and the functions of these mysterious glands, so insignificant anatomically, but so potent in their influence upon growth and nutrition. In addition, he said, there were scores of minor problems to be solved by this generation, and there was much knowledge to be sifted before it could be used to the best advantage. Considering the enormous quantity of sap they had collected, they might feel disappointed at the comparatively small bulk of sugar left after complete boiling; but sweeter or better sugar had never been tasted than that of their making, and among all samples in the market no brand ranked higher than that from the old Glasgow Royal

infirmary. It was for them in the new infirmary, and in that splendid institute, to see that the quality was maintained.

Scottish Universities and the Inclusive Fee.

A meeting of the University Court of St. Andrews was held on Sept. 30th. It was then reported that the resolution of the last meeting of the court, adopting the recommendations of a conference of the four Scottish universities with reference to the proposed institution of inclusive fees in the faculties of arts and science, had been intimated to the Lords Commissioners of H.M. Treasury and to the other Scottish universities, with an announcement that the University of St. Andrews was prepared, if the other Scottish universities were also willing, to introduce inclusive fees in the session 1911–12. The University Courts of Glasgow and Edinburgh had not yet discussed the proposals of the conference, but the University Court of Aberdeen had stated that they were prepared to introduce the inclusive fees in 1912–13. A letter was read from the Lords Commissioners of H.M. Treasury, in which it was stated that it was not to be assumed that the additional grants to the universities would be continued next year unless the arrangement as regarded the inclusive fees was extended before the beginning of the academic year 1912–13 to all the faculties except that of divinity; and in any case the question of increasing the grants to the full sum contemplated by the Treasury could not be considered until the inclusive fees had been instituted in the faculties of law, medicine, and applied science. The University Court agreed to invite the other Scottish universities to appoint representatives, and reappointed Principal Sir James Donaldson, Principal Mackay, and Professor Burnet to represent the University of St. Andrews.

Medical Inspection of Schools in Kincardineshire.

In the second report to the secondary education committee of Kincardineshire submitted by Dr. R. King, the assistant school medical officer for the county, it is stated that the number of children examined during the year was 4412, of whom 2780 were found defective. Many of these defects are not of a serious nature, and Dr. King says that there seems to be no valid reason why the great majority of the defective should not get rid of their defects and take their place among other children. The statement shows that the most common defects are: enlarged glands, 668 boys, 621 girls, total 1289; decayed teeth under 6 years, 425 boys, 401 girls, total, 826; nits in hair, 175 boys, 536 girls, total 711; enlarged tonsils, adenoids, 272 boys, 277 girls, total 549; defective vision, 168 boys, 267 girls, total 435; external eye diseases, 112 boys, 152 girls, total 264. 78 per cent. of the children had suffered from measles, 70 per cent. from whooping-cough, 6 per cent. from scarlet fever, 2 per cent. from diphtheria, 36 per cent. from mumps, and 22 per cent. from chicken-pox. From the statistics it appears that rural and urban schools have about the same percentage of defective children, and that in nearly every case the number of defective girls is larger than that of defective boys. This is largely due to the greater number of girls with nits in their hair and the greater number with defective vision. Kincardineshire at almost every age exceeds the standard for the whole of Britain as to height and weight, but at the age of 14 the averages for height and weight of both boys and girls are below the standard. At ages 12, 13, and 14 the girls are superior to the boys in both height and weight, the boys appearing to stand still, while the girls advance rapidly. At a later age the boys seem to shoot ahead while the girls remain stationary, thus attaining the relative standards maintained throughout life.

Oct. 10th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Poor-law Medical Officers and the Insurance Bill.

AT a meeting of delegates of dispensary medical officers, held in the Royal College of Surgeons in Ireland, Dublin, on Oct. 4th, the following resolutions were passed:—

1. That we, the delegates assembled here to-day, view with alarm the amendment of the Insurance Bill suggested by the Select Committee of the Irish Party, proposing to delete the medical benefits, while retaining the sickness benefits, thus throwing over on us an enormous amount of extra work, without any corresponding remuneration, and that a deputation of dispensary medical officers be elected to wait on the Irish Parliamentary Party and Mr. Lloyd George.

2. In the event of medical benefits being denied to Ireland under the Insurance Bill, we hereby recommend our *confrères* in the dispensary service to refuse to carry out the work imposed on us, unless we are properly compensated for our extra work.

3. That the medical benefits of the Insurance Bill, as applied to Ireland, be not deleted.

4. That the deputation appointed to-day confer with the dispensary medical officers appointed by the Conjoint Committee of the British Medical and Irish Medical Associations, with a view to a settled policy, before waiting on the Irish party and Mr. Lloyd George.

Public Health of Dublin.

The corporation of Dublin has accepted the report of the public health committee recommending the appointment of an assistant medical officer of health. Up to the present the medical officer of health, who is not himself a whole-time officer, has not had any qualified assistant in his department. The corporation has also directed its paving committee to "ascertain whether more sanitary methods of removing the street dust could be adopted, either by sprinkling with tar or otherwise, so as to prevent citizens who keep their windows open at night from being poisoned with the dust." Steps are being taken also to obtain control of the various lanes and alleys in the city, which are not in the charge of the corporation. There are at present 894 such lanes, with a total mileage of some 38 miles.

Retirement of the Registrar of the Royal College of Surgeons.

Old students of the Royal College of Surgeons in Ireland will learn with regret that Mr. G. F. Blake, the registrar of the College, has found it necessary after a long period of service to resign his office. At a meeting of the Council held on Oct. 5th, in a resolution accepting his resignation with great reluctance and regret, the President, Vice-President, and Council state that "during the long period of 31 years that Mr. Blake discharged the onerous duties of registrar to the College, his devotion to its interests, his courteous deportment to all with whom he had relations, and the admirable manner and efficiency in which he carried out the important work connected with his office were beyond all praise. The President, Vice-President, and Council feel that by the resignation of Mr. Blake the College has lost the services of a most efficient officer, and a kind friend, whom it will be difficult adequately to replace. They hope that in the many years which they trust are before him he will enjoy his well-deserved rest from duty. He may at the same time be assured that his valuable services to the College will long be remembered and appreciated."

Emigration from Ireland.

According to the Registrar-General's return, during the month of September 3443 emigrants left Ireland, a decrease of 1087 compared with the corresponding month of last year. The total for the first nine months of this year is 25,782, compared with 27,589 for the first nine months of 1910. Of the 3443 emigrants in September, 442 were from Leinster, 917 from Munster, 1406 from Ulster, and 678 from Connaught. The destination of 2747 was the United States, 441 Canada, 12 South Africa, 65 Australia, 19 New Zealand, 130 England and Wales, and 29 Scotland. Out of 2578 steerage passengers to the United States 761 had their passages paid for in America.

Royal College of Physicians of Ireland.

The following were admitted Licentiates and Members of the College on Oct. 6th:—Charles Preston Ball, M.D., William Porter MacArthur, M.D., Lieutenant, R.A.M.C., and Robert James Rowlette, M.D.

The "Handy Woman" Again.

The North of Ireland papers of Oct. 5th contain the account of an inquest held by the coroner of South Armagh in reference to the deplorable death during her confinement of a farmer's wife at Dromilly, near Balleek. It would appear that a fortnight before the event occurred the husband arranged with a fully trained and certificated midwife who lives at Mountnorris to attend his wife; but on Sept. 31st, when his wife became unwell, he, at her request, went for a neighbour and not for the midwife. On the next morning (Oct. 1st) the child was born at 6.30, and about 8 o'clock the woman who acted as "handy woman" went home. At half-past nine, three hours after the birth of the child, the mother died, and Dr. G. M. Irvine deposed that the cause was post-partum hæmorrhage. The jury found that death was due to post-partum hæmorrhage, the foreman adding

that the Crown, if they felt so disposed, "could pursue the matter wherever they like afterwards."

Water Scarcity.

Never in the recollection of anyone has there been such a water famine as at present exists in the North of Ireland, a place where, as a rule, there is a heavy rainfall. The question is now becoming a very grave one for Belfast, where the water is no longer turned on to the houses between 5 o'clock at night and 10 the next morning. In Londonderry there is little over a week's supply, in Belfast about three weeks', and in the former city many manufactories are closed, and the engines of the railway trains have to get their supplies in the country stations.

The Queen's University of Belfast.

The medical session opened on Oct. 10th, when the introductory address at the Royal Victoria Hospital was given by Dr. John E. MacIlwaine, who has succeeded the late Dr. W. B. McQuitty as assistant physician. During the day systematic lectures in the various classes began at Queen's College.

Oct. 10th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Milk Question in Paris.

AMONG the many problems that Paris has faced this year the lack of milk has caused great uneasiness for many weeks. Not only has milk been increasing in price, but, like butter, the supply also has diminished. Until recently the increase in price has only been expected, but now it has become a fact. A large milk concern in Paris has announced that from Oct. 15th the price of milk will be increased a halfpenny a litre, and, further, the population will be put on a milk ration, for since the end of July the daily amount of milk brought into Paris has fallen by 200,000 litres. Owing to the absence of a large number of Parisians on vacation this deficit has hitherto been of less moment, but the situation has now become alarming. The prefect of police has taken cognisance of it, and has summoned a conference of the three principal wholesale milk dealers in Paris to inquire into the causes of the milk famine and to concert measures to deal with it. This year, because there has been scarcely any grass, cattle have had to be fed with the hay crop. Fortunately this has been abundant. Nevertheless, the cattle have had to be put on a ration, and the absence of fresh grass as well as the diminution of food has resulted in a deficiency of milk. Aphthous fever has still further increased the difficulties. It has ravaged whole herds of cattle in the department of the Nord and in Normandy and also in the departments of the Midi. Those cows that have survived no longer furnish milk. Frequently they have had to be slaughtered on the first symptoms of the disease. The wholesale milk dealers estimate that the production of milk has become lowered by one-third. On all sides they have endeavoured to find fresh sources of supply, and have scoured even the most remote provinces for the purpose. In this manner they have succeeded now in limiting the deficit to a fifth, but there will be still a great deficiency of milk in Paris during the coming winter. The prefect of police has decided that care must first be taken of the infants' needs. The restricted ration will be enforced only on those who will hardly suffer much from it. Mothers of families with children under a year old are invited to state the amount of milk needed by them and they will be first served. At the present time the milk costs, according to neighbourhood, from 3*d.* to 4*d.* per litre.

Tetanus as an Accident of Work.

The Court of Appeal of the Seine pronounced judgment on an interesting point on Oct. 4th. The question arose whether a man who died from tetanus on Dec. 10th, 1910, could be regarded as the victim of an accident of work, his widow testifying that while at work on Dec. 10th he had sustained a slight puncture of the right foot. The court decided that the proof of the coincidence of the puncture with the beginning of the usual ten days' incubation of tetanus, and in a part of the body especially predisposing to that disease, imposed a liability on the master. The latter's insurance company, therefore, has been ordered to pay to the widow a life annuity of 490 francs, and also an income of 819 francs for the deceased's minor children.

Oct. 10th.

SWITZERLAND.

(FROM OUR OWN CORRESPONDENT.)

Swiss Balneological Society.

THE twelfth annual meeting of the Swiss Balneological Society took place at Zürich on Oct. 1st and 2nd, Dr. Hans Lötscher being local president. The number of members has risen from 111 to 124. The German edition of the *Swiss Balneological Review* has been very favourably criticised; the French edition will appear shortly, and the English one in the spring of 1912. Every year balneological excursions are organised, as in Germany and France. The question was debated whether Switzerland could undertake in 1914 the International Balneological Congress, which brings together several thousands of members. It was decided that such an undertaking would be possible only with the financial support of the Swiss Societies of Hotelkeepers and of Commerce. As regards the scientific part of the proceedings, Professor Sommer of Zürich lectured on the therapeutic application of the newest rays (X rays and radium emanation). Dr. Lötscher spoke on the importance of the town of Zürich as an intermediate climatic station. He mentioned that the mortality had decreased by 3 per cent. in the last 20 years, and that the ratio of deaths from tuberculosis had declined from 22·8 to 18·7 per 10,000 inhabitants. The mortality from typhoid had decreased from 6 per 10,000 to 0·8 per 10,000 inhabitants (i.e., 15 cases a year). He referred to the excellent water-supply and various sanitary improvements. Professor Dr. Schweitzer lectured on the radio-activity of various Swiss springs, of which about 300 so far have been investigated, and of these Disentio in the Grisons was given first place. Dr. von Muralt of Davos read a paper on the Psychic and Nervous Symptoms in Tuberculous Patients. Dr. Diebold of Zürich spoke about the inhalation treatment adopted at the sulphur baths of Baden, near Zürich, and Dr. Markwalder, of Baden, read a paper on After-treatment of Stiff Joints at the Spa, Baden, the importance of which, as well as that of Schinznach, is increasing from year to year. The next annual meeting of the society will take place at Zermatt in 1912.

Treatment of Cardiac Disease.

In the *Korrespondenzblatt für Schweizer Aerzte* of Oct. 1st Professor Eichhorst of Zürich has published a concise article on the treatment of cardiac disease. In the treatment of cardiac insufficiency he considers rest and a milk diet of primary importance. Medicinally, a combination of powdered digitalis (not the infusion), 2 grains, with diuretine, 16 grains, given three times a day, stands first. Digalen, introduced into therapeutics by Professor Cloetta of Zürich, is also recommended. Powdered leaves of digitalis, 2 grains, and calomel, 1 grain, are often very efficacious. Finally, a properly titrated tincture of strophanthus or Boehringer's strophanthine must be mentioned. Massage of the œdematous lower extremities is often to be recommended, together with passive movement. Venesection on the lines adhered to by Professor von Liebermeister may give surprising results. Excitement of any kind is very detrimental, as shown by three fatal cases lately observed in Professor Eichhorst's clinique. Carefully prescribed carbonic acid baths, with or without the addition of sea-salt and Nauheim exercises, benefit certain cases when given under strict medical supervision. In cases of arterio-sclerosis with symptoms of angina pectoris, morphia or pantopon can be given with advantage from time to time. The nitrites, adrenalin, and the quite modern vasotonin must not be forgotten.

Zürich, Oct. 5th.

LONDON SCHOOL OF TROPICAL MEDICINE.—The annual dinner of the school will be held on Tuesday, Oct. 17th, at 7.15 for 7.30 P.M., at Prince's Restaurant, Piccadilly, W., under the chairmanship of Dr. M. Cameron Blair, senior sanitary officer, Northern Nigeria. Miniature decorations will be worn.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Formation of a Technical Museum in Vienna.

SOME very influential Austrian commercial men and educationists have taken steps to bring together the existing scattered collections of objects dealing with the development of technical occupations and to make such additions as may be required for the adequate representation of modern methods and conditions. In commemoration of the sixtieth anniversary of the Emperor's accession the State and the City of Vienna have coöperated in the formation of a new museum, the foundation-stone of which was laid on June 20th, 1909, and the building, which covers an area of over 20,000 square yards and is situated opposite the Imperial Palace of Schönbrunn, is now nearing completion. The purpose of the museum is to illustrate the development of handicrafts and industries in historical succession, and in connexion with it periodical exhibitions will be held so as to constitute it a centre of public education in such matters. A considerable stock of specimens has already been acquired for the museum, and technical scientists, manufacturers, and craftsmen of all countries are invited to assist the museum in securing suitable objects for exhibition, such as tools, machines, apparatus, models, materials, descriptions of methods of working, plans, books, illustrations, manuscripts, and information of all kind pertaining to industrial technology. The exhibits will be subdivided into several sections, such as mining, practical applications of electricity, chemistry, and several others. Special medical interest attaches to the section dealing with the preparation and distribution of food and beverages, and to the section on public health, which includes the sanitation of buildings, water-supply, drainage, systems of heating and lighting, appliances and methods for first aid, Red Cross stations, hospital railway trains, hospital ships, and town planning. In the section on chemistry, the pharmaceutical department, with its illustrative specimens of old and new remedies, will no doubt be of interest to medical practitioners. Particulars can be obtained from the office of the Technical Museum, Vienna I., Ebendorferstrasse 6.

Difficulties in Connexion with the New Clinics.

The building of the proposed new clinics has been suddenly interrupted by a controversy between the State and the corporation known as the "Spitalsfond," which is responsible for the upkeep of hospitals. This incident is a good illustration of what may happen when an antiquated bureaucratic institution is called upon to undertake a great task. The Government gave at the outset 20 million kronen (£800,000) for the purpose of erecting the new General Hospital, and the Spitalsfond ought, in addition, to have provided a similar sum by selling the ground on which the old hospital stands, but it is now found that after five clinics have been erected and nearly all completed, there is no more money available for the erection of the further necessary institutes. The officials of the Spitalsfond, moreover, declare that the clinics remaining in the old General Hospital need not be moved into new buildings, but can extend themselves into the premises vacated by the five clinics, which are now located in the new hospital. The fact that these old premises are of an antiquated type incompatible with modern requirements does not count for much with the financial magnates of the Spitalsfond, who say that they have no money, and whose reply to all remonstrances is, "If the new clinics are wanted, then let him pay for them who wants them." The indignation of the public at the attitude of the officials has led to bitter words being spoken and written about the matter not only in medical circles but also by the lay press. The Government, however, did not lose patience, and after prolonged negotiations, from which the old political enmities were with difficulty excluded, an arrangement was arrived at ensuring the continuance of work on the requisite new institutes, which are to be completed within five years.

Disappearance of a Historic Building.

An interesting old building is about to be pulled down in accordance with a scheme of street widening. It formerly belonged to the medical faculty of mediæval Vienna, and in it the first regular necropsy on a human body in a German-speaking country took place. Owing to religious prejudice such a procedure was extremely rare, and medical men had no means of making themselves acquainted with the position of the viscera except by opening the bodies of domestic animals. In the year 1404, however, the Emperor Frederic II., an enlightened man, permitted the dissection of a male corpse for the benefit of the students and doctors of medicine every five years; it was at the same time ordered that this dissection should take place secretly and that a mass should be read after it was finished and before the corpse was buried. Only six necropsies took place in Vienna in the fifteenth century—namely, in the years 1404, 1418, 1444, 1452, 1455, and 1459. The first female body dissected in Vienna was that of a woman who was hanged as a witch in 1452, together with five other unhappy victims. This necropsy was conducted by "Master Jacobus, the chirurgien," a German, whilst the first complete dissection was performed by the Italian scientist, Galearo of Padua, who devoted a full week to it! It is interesting to note that when the house became the property of Roman Catholic monks a solemn "purification" of the building from the sins committed in it by the prosectors was considered an absolute necessity. The above-mentioned dates are those which have obtained historical sanction, but from the registers of the faculty in this city it would appear that some other necropsies, at least of a partial nature, must have taken place here too, for the anatomical knowledge of the Viennese prosectors could not have been obtained solely from the dissection of the lower animals.

Oct. 7th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Conveyance of Infectious Diseases by Milk.

IN Nagyvárad, where two years ago a typhoid epidemic claimed about 300 lives, the sanitary board has issued small pamphlets among milk dealers, instructing them on the danger arising from contaminated milk. A great many dealers have also been fined for not returning their milk cans to the dairies clean and dry. Tuberculosis is very prevalent among the cows. The dairy inspectors have to pay special attention to this fact. To the public the following instruction has been sent. "Typhoid fever, scarlet fever, and diphtheria are sometimes conveyed by milk, especially typhoid, if the cans and bottles are washed in foul water and are not sterilised. Cities well supplied with water of good quality and having a modern sewerage system derive typhoid fever only from contaminated country milk or vegetables, or by the return of people in the autumn from less sanitary places. The bacteria in milk produce acids and toxins, which are injurious to infants and invalids. To destroy these milk is often pasteurised. This, however, is somewhat objectionable, as its destroys certain enzymes that are necessary for the digestion of the milk. It is easy enough, by diluting pasteurised cow's milk and adding milk sugar, to obtain milk identical in percentage of its principal constituents with mother's milk, but the trouble due to the indigestibility of the caseins remains; therefore, mother's milk is about the only thing for the baby."

War on Trachoma.

With the opening of the public schools the department of health renews its active struggle against trachoma. Inspectors are to visit every building as soon as possible, and the eyes of every child will be examined for traces of the disease, which is gradually beginning to give way under the continued assaults of the department. Children suffering from trachoma will be kept from school until they have undergone an operation or had appropriate treatment. The department will perform the necessary operation and administer treatment without charge. A certificate from a physician that a child has begun treatment will obtain readmission. It is believed that this inspection will show a great falling off in the number of trachoma cases. After the examination for trachoma has been completed it is proposed to test the eyes of the school children for defective vision.

Oct. 7th.

UNITED STATES OF AMERICA.

(FROM OUR OWN CORRESPONDENTS.)

Danger of Water Famine Averted.

THE unprecedentedly heavy rains of the past few weeks have saved New York from what would have been a serious shortage in the water-supply. The borough of Manhattan, containing some 2,000,000 inhabitants, would have been the sole sufferer among the five boroughs, but as it is the site of all the principal hotels, theatres, public buildings, as well as of the worst slums of the city, it would have felt the want of its good water most grievously. Just before the beginning of the heavy rainfall the health authorities had begun an attempt to purify the water remaining in the reservoirs by the use of chloride of lime; 700 cases of typhoid fever occurring in ten weeks had awakened them to the gravity of the situation. It was found that part of the supply was coming from a small stream that received the dejecta of a village in which there were several cases of typhoid fever. All danger is now passed, and New York has resumed its usual extravagant use of water.

A New Inebriety Hospital.

The commission appointed by Mayor Gaynor to consider means for dealing with habitual inebriety met on Sept 12th at the City Hall and decided first to select a suitable site for the contemplated hospital for inebriates, which must be found not more than 35 miles from the city. Legislation will be urged to permit the incarceration of chronic drunkards without the permission of their relatives or their own consent.

Plans Further to Reduce Infant Mortality.

The committee for the reduction of infant mortality, of the New York Milk Committee, expresses itself as satisfied with the results obtained by the allied agencies this summer. It will now turn its attention to the prevention of infant deaths due to congenital troubles, which cause about 17 per cent. of all infant deaths. The committee is giving attention to 1000 expectant mothers to enable them if possible to bring into the world children strong enough to meet the stress of life. An arrangement will be made with the Russell Sage Foundation by which a special nurse will be detailed for this work. In addition to medical care and hygienic precautions, help will be provided if the mother is overworked. No midwives will be permitted to handle any of these cases. After confinement rest will be provided for the mothers, and the children will be referred to the milk stations.

Death of a Medical Journalist.

Dr. De Santos Saxe, a young urologist and gynæcologist, died in his thirty-fifth year on Sept. 10th. He was one of the assistant editors of the *New York Medical Journal*, and his death makes a second gap in the *personnel* of that publication. Dr. Saxe had command of five languages, and was a promising writer in addition to his professional attainments.

Wholesale Destruction of Stray Animals.

The New York Society for the Prevention of Cruelty to Animals has been collecting stray dogs and cats since June 1st last. During that time 113,186 animals have been painlessly put to death, the record for a single night being 886 cats. Stray animals are now believed to be carriers of infection and the society's crusade thus serves a double purpose.

Compulsory Antityphoid Vaccination in the Army.

Major-General Leonard Wood, who, it may be remembered, was originally an army surgeon, issued an order on August 28th making it compulsory for every officer and enlisted man in the United States Army under 45 years of age to subject himself to vaccination against typhoid fever. Heretofore, it has been voluntary on the part of either officer or private to subject himself to what was considered an experiment. The War Department is now thoroughly convinced of the efficacy of antityphoid vaccine.

Vacancies in the Philippines.

The United States Civil Service Commission announces an examination to secure eligible medical men for vacancies in the positions of bacteriologist and pathologist in the Bureau of Science at Manila. The salary is £400 per annum, with opportunities for promotion. It has recently been difficult to secure men to fill these positions, just as it is hard to persuade young practitioners to present themselves for examination for positions in the army, and especially in the navy. The pay of surgeons in the army and navy is about the same as in Great Britain, although no American surgeon reaches the emoluments of the English surgeon-general.

A Scandal about "Fee Splitting."

Certain members of the Erie County Medical Society are accused of fee splitting, or dichotomy. This practice consists of division of the fee for a surgical operation between the surgeon who performs the operation and the medical attendant who sends the patient to that particular surgeon. It is customary for the medical attendant to accompany his patient to the surgeon, and patients are prone to consider such a trip as a friendly duty on the part of their adviser, and seldom offer to defray even his travelling expenses. In its least objectionable form the fee splitting has been restricted to the surgeon's including the advising practitioner's expenses in his bill; but the practice has quickly outgrown this simple form, and certain medical men, it is alleged, have made a custom of sending their patients to the surgeon who was willing to pay the largest commissions. Reprehensible as this custom is, it is an inevitable outcome of the crowding of the profession by the small, proprietary medical schools, chartered, generally with great pride, by communities that have been newly furnished by the Federal Government with a State constitution. The various States are only now waking up to the evils which they, unthinkingly and with mistaken liberality, fostered years ago.

Hygienic Precautions in Secret Societies.

A Chicago alderman has come to the conclusion that danger of infection lurks in the "hoodwink," or blindfolding bandage, used on candidates for admission to various secret societies, and that serious eye diseases might be communicated by its use. The alderman, who is a medical man, proposes to introduce a city ordinance to compel the use of a new bandage for each candidate, or the interposition of a piece of fresh sterile gauze between it and the eyes.

The Mortality from Patriotic Crackers.

Owing to regulations passed in various cities and States forbidding the use of giant crackers on July 4th, the number of deaths from their use has fallen from 466 in 1903 to 57 in 1911, and of the non-fatal injuries from 3983 to 1546.

Oct. 2nd.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

A Curious Fatality.

A VERY curious occurrence involving the death of a young medical man took place at St. Kilda recently. Three young men who had been playing tennis together entered a small bathroom for the purpose of having a hot shower bath. The bathroom was a very small apartment, almost without ventilation and containing a gas heater. They locked the door on entering. About half an hour later a message was taken up to one of them, but no response could be elicited from within the bathroom, although the bath tap could be heard running. The door was forced and the three occupants of the room were seen lying apparently unconscious on the floor. On dragging them out two were found to be still breathing, but the third was dead. The young man who thus lost his life was Dr. T. L. Gill, a recent graduate of the Melbourne University, who after a brilliant student career had held resident appointments at the Melbourne and Children's Hospitals, and had acted as demonstrator of pathology in the University. He was about to be married and to begin private practice. The survivors can give no clear account of what happened. All that is remembered by one of them is that he heard Dr. Gill, who was in the bath, complain of sudden dizziness, and then everything became blank. The other recollects nothing. A necropsy showed death to be due to suffocation, and the inquiry was adjourned. It is supposed that death was due to carbon-monoxide poisoning.

State Sanatoriums.

In Victoria the Government has now established three

sanatoriums for consumptives. At Greenvale there are 67 patients, and the highest number has been 82. This is stated to be chiefly an educational institution and patients are retained there only three months. At Amherst there is accommodation for 65, with a present total of 19. At Daylesford four patients are in residence. Before the end of the present year a home for advanced and hopeless cases will be opened at Cheltenham and will accommodate 100 patients. The total number of probable cases in Victoria has been estimated at about 5000.

Health of South Australia.

The Registrar-General for South Australia reports a total population of 430,000 in an area of 380,000 square miles. The infant mortality figure is the lowest in the world. The death-rate from phthisis is below that of Victoria, but higher than that of any other State except Tasmania. A very disquieting feature of the report relates to vaccination. During 1910 the births numbered 10,540, while only 1800 successful vaccinations were recorded. The total amount paid by Government to 191 public vaccinators was £293. The marriage rate for 1910 is the highest yet recorded.

Prevalence of Syphilis.

At the last Australasian Congress there was marked difference of opinion as to the prevalence of syphilis in Australia. During 1910, as I explained in my last letter, Dr. Burnett Ham of Victoria obtained a Government grant to have a free test by Wassermann's method of any specimen forwarded from the metropolitan area. Syphilis was gazetted notifiable under impersonal conditions and an account of each specimen was sent as regards sex, age, and disease. The report of the advisory committee, signed by Professor H. B. Allen, from which I was able to quote, stated that 5000 distinct cases were registered and examined. Of these 1900 gave a positive reaction and over 400 a partial reaction. The report said: "Experience has shown that out of 100 cases of syphilis only about 60 will give a positive reaction, so that 60 positives represent 100 cases of syphilis. Therefore 1900 positives represent 3167 cases of syphilis, or 63·3 per cent. out of the 5000 reported. On the metropolitan population of 600,000 this means that more than 0·5 per cent. were found to be syphilitic." The *Australasian Medical Journal* objects that these figures cannot be taken as statistically accurate, but withholds definite criticism until a fuller analysis is made, which is being done for the Sydney Congress in September. The whole of the 5000 tests were performed by Dr. Konrad Hiller. In conjunction with the supposed result of the report a "campaign" has been inaugurated to endeavour to lessen the incidence of syphilis. The daily press has viewed the matter sympathetically, and the Government promises to act on any practicable suggestions laid before it. The feeling against Contagious Disease Acts and lock hospitals is even stronger here than in England, so that it is difficult to see what legislative measures would be considered.

Ninth Australasian Medical Congress.

The arrangements for the Ninth Australasian Medical Congress are now well forward, and an interesting gathering is assured. In Medicine attention will be directed to arteriosclerosis. In Surgery the chief topics will be the Surgery of the Large Intestine, the Treatment of Fractures, and Surgical Shock. In Obstetrics the Hæmorrhages of Pregnancy and Parturition will be discussed. The subject for full congress will be Serum and Vaccine-Therapy. All the special sections are being well filled. The proposals for autonomy for the Australian branches of the British Medical Association will be considered. So far as present indications go these will be favourably received, although New South Wales has always opposed any move in such a direction in former years.

Cancer Cure.

About six years ago the procedure of a notorious cancer-curer named Davis was made the subject of much newspaper correspondence. His claims were championed by Sir John Madden, Chief Justice of Victoria, and as a result of this support the then Premier granted a board of inquiry into the alleged cure. This was composed of medical men and laymen in about equal proportions and presided over by Dr. W. P. Norris, chairman of the Board of Public Health. The committee has just presented its report, in which it is stated that the preparation was an arsenical one, and that in no instance had it cured cancer or fulfilled the claim made by its proprietor. In addition, the committee considered that in some instances its use had entailed unnecessary suffering. The committee also made some suggestions for the restriction of unqualified practice by cancer-curers.

Federal Quarantine.

A new post as assistant medical officer has been created by the Federal Government in the Department of Quarantine at a salary of £650 per annum. It has been filled by the appointment of Dr. J. H. L. Cumpston, who was assistant medical officer in the Western Australia Health Department, and is a graduate of the University of Melbourne. Dr. Cumpston will have charge of the department during the absence on leave for six months of Dr. Norris, the Inspector-General.

Sept. 2nd.

Obituary.

JOHN HUGHLINGS JACKSON, M.D. ST. AND., F.R.C.P. LOND., LL.D., D.SC., F.R.S.,

CONSULTING PHYSICIAN TO THE LONDON HOSPITAL AND TO THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.

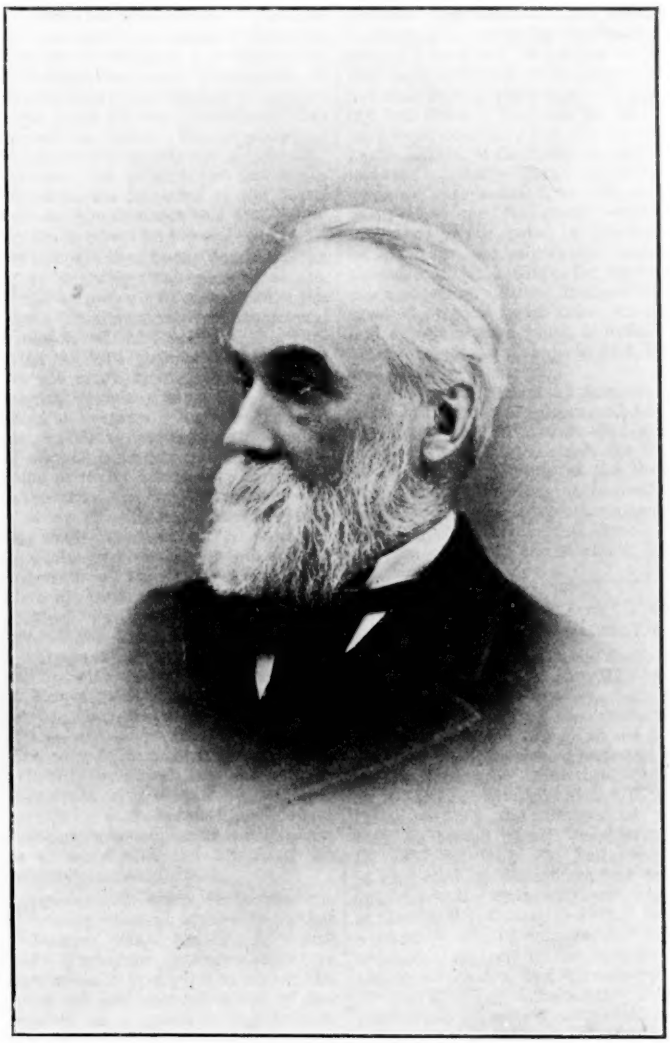
Dr. John Hughlings Jackson, whose death occurred on Saturday, Oct. 7th, at his residence, 3, Manchester-square, London, was a Yorkshireman. He received his early medical training by acting as an apprentice in York and attending the York Medical and Surgical School, where Dr. Shann, physician to the dispensary, lectured on anatomy and physiology, and Mr. J. Milner superintended the dissecting. The school, though small, was a good one, and Jackson was well grounded when he proceeded to St. Bartholomew's Hospital. From this hospital in the space of a few months he qualified as M.R.C.S. Eng. and L.S.A. Lond. This was in 1856, and for a short time he returned to York as resident medical officer to the dispensary, but in 1859 he began that connexion with the London Hospital which was so fruitful in opportunities of work for him, and has redounded so much to the honour of the hospital, for in that year he was appointed lecturer in pathology and morbid anatomy, and also lecturer on histology and the microscope in the summer session. He owed these appointments to a great extent to the introduction of Sir Jonathan Hutchinson, whose interest in him was partly due to the fact that both received their early medical education at the York School. In 1860 he took the M.D. degree at the University of St. Andrews and in the following year was admitted a Member of the Royal College of Physicians of London. He was appointed assistant physician at the London Hospital and lecturer on physiology at its medical school in 1864. Even at that time he was recognised as a neurologist of mark, for we find him coupled with J. S. Ramskill and C. B. Radcliffe as an original member of the staff of the National Hospital for the Paralysed and Epileptic, to which hospital he became in due course full physician and consulting physician. In 1872 he became full physician at the London Hospital, passing on to the consulting staff in 1894. Occasion was taken of his retirement from the active staff to present him with his portrait in oils and a silver ewer and stand from his colleagues of the medical and surgical staff and numerous friends both at home and abroad, "in recognition of their esteem and admiration of his great services to the London Hospital Medical College, his distinguished position in the profession, and the advances he has effected in medical science by his laborious investigation and profound insight into diseases of the nervous system." Sir James Paget, in making the presentation, remarked on the fact that Jackson and Jonathan Hutchinson were among the first students he had taught, and he dwelt on the constant effort of Jackson to bring all clinical and scientific facts into harmony for the practical good of the patient. He laid special emphasis on Jackson's fruitful researches into the localisation of brain function, which, he said, had "given lucidity to physiology and guidance to surgery." Dr. Stephen Mackenzie remarked that Sir Jonathan Hutchinson had told him that the "greatest work he had ever done was to discover Dr. Hughlings Jackson." In 1868 Dr. Jackson was elected to the Fellowship of the College of Physicians, and in the same year he delivered the Croonian lectures of the College, taking as his subject the Evolution and Dissolution of the Nervous System. These

lectures were published in THE LANCET at a subsequent date. In 1869 he delivered the Goulstonian lectures on Certain Points in the Study and Classification of Diseases of the Nervous System, which were published in THE LANCET of February and March of that year. In 1872 Dr. Jackson delivered the Hunterian Oration, in which he discussed the question of education in its widest sense, pointing out the impossibility of preserving the artificially abrupt separation commonly made between mind and body. As physiologists, he said, we were concerned with physiological phenomena, with coördinations of impressions and movements of different orders, and not with memory, will, and the like. He pointed out that such coördinations were experimented on for us by disease, and from these experiments we might hope ultimately to obtain a knowledge of such physiological phenomena in their entirety. In 1877 he delivered the annual oration before the Medical Society of London on Ophthalmology in its Relations to General Medicine (THE LANCET, May 12th, 1877), a subject which served him also in 1890 for his presidential address to the Ophthalmological Society of the United Kingdom (THE LANCET, Oct. 26th, 1890); and in 1879 the Diagnosis of Epilepsy was the topic of a series of lectures given by him before the Harveian Society.

In 1885 he delivered the Bowman lecture before the Ophthalmological Society, on Ophthalmology and Diseases of the Nervous System, which was published in THE LANCET of November of that year. In 1889 he delivered the address in medicine at the Leeds meeting of the British Medical Association on the Comparative Study of Diseases of the Nervous System—a subtle address on those obscure relations of evolution to medicine, regarding which the profession was then, as now, groping towards the light, assured, however, that the day of fuller illumination is not far distant. In 1890 he was Lumleian lecturer, and took for his subject Convulsive Seizures, a subject that he had made peculiarly his own, for almost a quarter of a century had elapsed since the clinical and pathological study of convulsions due to gross local organic disease of the brain—now almost universally known as Jacksonian convulsions—had led him to enunciate the doctrine that the Rolandic region of the brain was "motor," and that in it the movements of the different parts of the body were represented. These lectures, which contained the latest views of his riper experience, were remarkable for their closeness of observation, clearness of argument, and the marvellous powers of induction of which they were the outcome. In 1897 Dr. Jackson delivered the first of the Jacksonian lectures, founded by the Neurological Society in his honour. These lectures, on the Relations of Different Divisions of the Central Nervous System to one Another and to Parts of the Body, were published in THE LANCET of Jan. 8th, 1898.

His literary work was extensive, but solid and unpretentious rather than ostentatious. Much of his work is to be found in those of our columns devoted to hospital reports. In 1868 he contributed the article on Convulsions and Epilepsy to Vol. II. of "Reynolds' System of Medicine." In the same year was published his "Cases of Disease of the Nervous System in Patients the Subjects of Inherited Syphilis." An "Abstract of a Paper on the Psychology of Language" was published by him about this time. In 1869 he published a reprint of his address before the St. Andrews Medical Graduates' Association on Cases of Disease of the Nervous System in Patients the Subjects of Inherited Syphilis, in which he conveyed the lesson that hemiplegia, chorea, and other diseases of the nervous system might be traced to the influence of hereditary syphilis, even when the patient presented none of the usual signs of the disease. The study of the family history was insisted on by him as of the highest importance, as tending towards the establishment of a right clue whereby cases otherwise hopelessly unintelligible might be benefited by specific treatment. In 1870 he published "A Study of Convulsions," to which we make further reference, and in 1879 "Some Remarks on the Routine Use of the Ophthalmoscope in Cerebral Disease." But Jackson's best literary work was in the form of communications to periodical medical literature. These were numerous and always important, reporting his wonderfully acute clinical and pathological observations and drawing from them deductions that formed at once an introduction to, and an abstract of, the numberless physiological experiments that have since been carried out, many of the results of which have been incorporated in the ordinary medical creed. The pathological and physiological knowledge to which they, together with the work of Ferrier, Schäfer, and others, were the prelude, have had as their sequel the brilliant surgery which in this country is identified with the names of Macewen and Horsley. Many of the more important of these communications appeared in our columns, as, for example: On a Case of Disease of the Posterior Columns of the Cord—Locomotor Ataxy (with Mr. Lockhart Clarke) (THE LANCET, June 10th, 1865); Clinical Remarks on Emotional and Intellectual Language in Some Cases of Disease of the Nervous System (THE LANCET, Feb. 17th, 1866); on Anatomical and Physiological Localisation of Movements in the Brain (THE LANCET, January, February, and March, 1873); a lecture on Softening of the Brain (THE LANCET, Sept. 4th, 1875), in which the precision of thought and language and the strict adherence to that only which is justified by clinical and pathological observation, which formed always such a valuable part of Dr. Jackson's treatment of a question, were very noticeable (in this lecture Jackson called attention to the frequent misuse of the term "softening of the brain" in cases which were really cases of nervous exhaustion, remediable by common-sense measures); On Nervous Symptoms with Ear Disease (THE LANCET, March 24th, 1877); On Tumours of the Cerebellum (THE LANCET, Jan. 24th, 1880); lecture on a Case of Intracranial Syphilis (THE LANCET, Feb. 21st, 1880); On Aphasia with Left Hemiplegia (THE LANCET, April 24th, 1880); A Case Illustrating the Value of the Ophthalmoscope in the Investigation and Treatment of Disease (THE LANCET, June 12th, 1880); Lecture on Auditory Vertigo (THE LANCET, Oct. 2nd, 1880); Eye Symptoms in Locomotor Ataxia (THE LANCET, Dec. 18th, 1880); The Psychology of Joking (THE LANCET, Oct. 22nd, 1887), an interesting paper in which it is stated that, Dr. Johnson to the contrary notwithstanding, punning should not be despised. His last paper in our columns was published (in conjunction with Mr. Leslie Paton) on March 27th, 1909, On Some Abnormalities of Ocular Movements.

Some 16 years ago an index to his published writings, from 1861 to 1894 inclusive, was printed in the *London Hospital Gazette*. They reached the astonishing total of 202, and the list was not complete. The amazing fertility of his genius can, perhaps, best be appreciated when it is noted that in three consecutive years (1873 to 1875) no fewer than 40 contributions to neurology emanated from his study, many of them long and elaborate, but all reflecting that intellectual power and comprehensiveness of view at which the reader of to-day still marvels. The first paper, in addition to those in our own columns, of which there is a record is entitled "Cases of Reflex Amaurosis, with Coloured Vision," which appeared in the Royal London Opthalmic Hospital Reports for 1861. It was followed ere long by "Observations on Defects of Sight in Brain Disease," "On Ophthalmoscopic Examination during Sleep," and "On the Use of the Ophthalmoscope in Affections of the Nervous System," all in the same series of reports. Thus early was Dr. Jackson instrumental in popularising the use of the ophthalmoscope, the most valuable of all weapons in the neurologist's diagnostic armamentarium. In 1864 came "Loss of Speech with Hemiplegia on the Right Side," and "Loss of Speech: its Association with Valvular Disease of the Heart, and with Hemiplegia on the Right Side." These contributions appeared very shortly after the discoveries of Broca, and served to elaborate and substantiate the contentions of the French *savant*. In 1866 a paper was published entitled "Remarks on those Cases of Disease of the Nervous System in which Defect of Expression is the most striking Symptom," which merits attention, inasmuch as it contains proof that Dr. Jackson had observed the phenomena and fully appreciated the significance of what has come to be known as apraxia 34 years before Professor Liepmann published the account of a case which has become a classic in the study of that subject. In these early years, too, appeared observations on "Regional Palsy and Spasm," on "The Disorderly Movements of Convulsion," on "The Sequence of Spasm in Unilateral Convulsions," and on "A Study of Convulsions," in which his unerring clinical acumen and scientific



JOHN HUGHLINGS JACKSON, M.D., F.R.C.P., LL.D., D.SC., F.R.S.

(Reproduced from a photograph by Messrs. Maull and Fox.)

imagination led him to postulate the existence of a motor area in the cortex and of centres in that motor area, and to determine their arrangement—brilliant speculations which subsequently received complete corroboration by the experimental work of Fritsch, Hitzig, and Ferrier. Merely to scan the titles of the lectures (Croonian, Lumleian, Hunterian, Bowman, &c.), presidential addresses, communications, papers, and notes that constitute the record of these fertile years leaves on the mind an indelible impression of the indefatigable industry and catholicity of interest of him whose superlative genius was equalled by his modesty. On July 15th, 1893, there was published in THE LANCET the first of that delightful series of "Neurological Fragments" which continued to appear at intervals for many years—chips from the workshop of a master mind. In his later years Dr. Jackson was wont whimsically to remark that he was afraid the younger generation of investigators would "find him out," and he was "found out," but not in the sense that amused his fancy. The psychologist of to-day has adopted Dr. Jackson's hypothesis of "levels" in the central nervous system; the physiologist has established the truth of his views on the functions of the motor cortex and of the cerebellum; the clinician and the pathologist are reaping in many fields where he sowed.

We have said enough to indicate that by the death of John Hughlings Jackson English neurology has suffered a loss, the extent of which it would be difficult to exaggerate. His was a figure that never came prominently before the general public, and while by reason of his age and his unusually retiring disposition he had perhaps become even to many of the profession not much more than a name, to his friends and to neurologists generally he was the "Grand Old Man" of their affection and esteem. No less than half a century has elapsed since he first ventured as a pioneer into the unexplored region of clinical neurology, to illumine its recesses by an unparalleled series of researches, conducted with unflagging zeal and enthusiasm, and animated by a rare scientific temper. Many of these researches culminated in discoveries which made his name familiar wherever medicine is taught the world over, but it is not merely because the present generation of the medical profession has entered into the fruit of these labours that he was regarded as the Nestor of neurology. The affection cherished for him by all who enjoyed the inestimable privilege of working with him as colleagues or pupils was no less striking than the unanimity with which his neurological genius was reverenced. Not a few whose names are as familiar to-day in foreign medical schools as his own were proud to call him their master. To come into close contact with that philosophic mind was to discover that discussions were somehow raised to its own high level, and that minuteness of detail could be combined with breadth of principle without either being sacrificed. It is because the modern student of scientific neurology was taught by Dr. Jackson how to think and how to work that the extent of his indebtedness cannot be readily estimated.

We may well close this notice with a few words from one of his pupils which show vividly what an admirable teacher and master Hughlings Jackson was. Dr. F. J. Smith writes: "The death of Hughlings Jackson takes me back in memory to the days when I first clerked under him in the very early 'eighties' of last century, when he had already gained great renown as a (perhaps the) leading neurologist, and consequently excited most reverential awe in the minds of us students, to whom his powers of diagnosis seemed little short of marvellous. We loved to go round with him because we felt that what he told us was true and was the outcome of real clinical observation, coupled with sound deduction, and not a mere quotation from others; for, indeed, we could find but little in our text-books that could compare with his teaching, or, rather, with which we could test his words. This must have been our reason, though, perhaps, we never admitted it to ourselves, for it would be idle to suggest that he talked freely, or in what would now be considered the correct fashion; we had from him no detailed results of examination of spinal fluid, no occult views on the precise methods by which nerve degeneration occurred, nor upon the precise meaning to be attached to every detail of a microscopic field; but we did get a knowledge of how to test reflexes, and of the significance to be attached to their increase or decrease, and of how to differentiate between their real and their apparent alterations. How we relied, too, upon his opinion as to whether optic neuritis was or was not present! In those days the ophthalmoscope was almost a novelty, and it became our ambition (never fulfilled by the way) to discover optic neuritis before Jackson did, and to draw his attention to its earliest appearance. It was, I think, by his appreciation of these our endeavours to tell him something we had discovered, that he attracted our love as well as our admiration, for it never could be said that his teaching or manners to us were attractive in the showy sense of the word. It has given me the keenest pleasure in later years to find how little I have had to unlearn that Jackson taught me, and to perceive how little inclined even modern neurologists are to sneer at anything he ever said or wrote; and frequently enough I have had the delight of telling some of them that they have only just re-discovered what Jackson had told us five and twenty years ago. Of his personal character I can say but little. We were too far removed in age to ever have been intimate, but the little I can say is that I never knew Jackson to do or say an unkind word to anybody; he had the modesty which only belongs to true genius, and when we approached him with some fancied discovery he never made one 'feel small'—rather did he profess his own ignorance of the point in question and give us the joy of believing we had helped him, though inwardly he must have chafed a little, I think, for he had to listen, doubtless, to much nonsense. To me Jackson will always remain as the greatest original I ever knew, for there was little foundation laid by others upon which to build. He has left a monument indeed for others perhaps to gild, but scarcely to improve its architecture."

Dr. Jackson had many honours conferred on him. He received the honorary degree of LL.D. from the Universities of Glasgow and Edinburgh, that of D.Sc. from the University of Leeds, that of M.D. from the University of Bologna, and the honorary Fellowship of the Royal College of Physicians of Ireland. He was, of course, a Fellow of the Royal Society. He was also a corresponding member of the Royal Academy of Medicine of Belgium. In 1907 a marble bust of him was placed in the National Hospital for the Paralysed and Epileptic.

JOSEPH BELL, M.D. EDIN., F.R.C.S. EDIN., J.P., D.L.,
CONSULTING SURGEON TO THE ROYAL INFIRMARY EDINBURGH, ETC.

WE regret to announce the death of Dr. Joseph Bell, which occurred at his residence Maurice Wood, Milton Bridge, Midlothian, on Wednesday, Oct. 4th. Dr. Joseph Bell's distinguished surgical career was very intimately associated with Edinburgh. The eldest son of Benjamin Bell, an Edinburgh surgeon, he was educated at Edinburgh Academy and the University of Edinburgh, and did his clinical work as a medical student at the Edinburgh Royal Infirmary. Having taken the degree of Doctor of Medicine in 1859 he served in all the junior posts at the infirmary. In 1863 he took the Fellowship of the Royal College of Surgeons of Edinburgh, was for a time demonstrator of anatomy in the University, and was elected assistant surgeon to the Royal Infirmary in 1871. He had not long to wait for a vacancy as full surgeon, and in the meantime had been appointed surgeon to the Edinburgh Eye Infirmary shortly after qualification, and later surgeon to the Royal Hospital for Sick Children, Edinburgh. Upon the staff of all of these institutions he served with distinction for the full term of office, and was duly elected consulting surgeon in each case. His private practice grew with his public appointments. At the University of Edinburgh he held several educational appointments and examinerships.

He was not only an extremely skilful surgeon, but carried, as is well known, the art of diagnosis very far by his extraordinary faculty of detecting the ordinary routine of his patient's careers or the environments in which they lived. Bell was not that dangerous person the "lightning diagnostician," but, having behind him a very full surgical equipment, he was able to reinforce his scientific knowledge by a wide familiarity with the ordinary conditions of life, and an almost uncanny intuition of the part which those conditions had played in the healths and lives of any man, woman, or child who happened to come before him. By this faculty he became famous throughout the world owing to the accidental circumstance that Sir Arthur Conan Doyle, when completing his medical education in Edinburgh some 30 years ago, worked under Bell, and was so

impressed by the display of his chief's deductive faculties that he was led to create his famous hero Sherlock Holmes. Sir Arthur Conan Doyle has recorded a typical episode, which occurred in the out-patient department of the infirmary, when a new patient was told, without being questioned, that he was a soldier, a non-commissioned officer, who had served in the West Indies. The speech then made by Bell was exactly similar to the many speeches with which the great detective confounds the not over-ready wit of his friend Watson, and it is easy to see how the dramatic side of Joseph Bell's highly developed gifts of observation led to the fashioning of Sherlock Holmes.

Joseph Bell was a successful though not very prolific author, but for no less than 23 years edited the *Edinburgh Medical Journal* with conspicuous ability. A small manual upon surgical operations, a subject on which he had lectured at the University of Edinburgh, ran through seven editions, and "Some Notes on Surgery for Nurses" achieved almost as great a success. He was a Fellow of the Royal Society of Edinburgh and a Deputy Lieutenant of the county. His wife was the daughter of the Hon. James Erskine Murray, but he had for a long time been a widower.

LOUIS STROMEYER LITTLE, B.A. LOND., F.R.C.S. ENG., M.D. KIEL,

LATE SURGEON TO THE LONDON HOSPITAL AND TO THE SHANGHAI GENERAL HOSPITAL.

AFTER a long illness the death of Louis Stromeyer Little took place at his residence at Bletchingley, Surrey, on Oct. 4th. Mr. Little, who was 70 years of age, was a student at the London Hospital, where he subsequently held the posts of lecturer in anatomy, curator of the museum, and surgeon to the hospital. He took the M.R.C.S. Eng. in 1862, and proceeded to the Fellowship four years later, while he graduated in Arts at the University of London. He also took the degree of Doctor of Medicine in the University of Kiel, and held surgical appointments at the London National Orthopædic Hospital and at St. Mary's Dispensary for Women and Children. In or about 1876 he went to Shanghai in China, where he resided for nearly 20 years, and was surgeon to the Shanghai General Hospital. He then returned to England and lived in retirement at Bletchingley in Surrey.

During the war in 1864 Little was present at the campaign in Schleswig from February to May in that year, doing much good work in tending the wounded, Prussians and Danes, over 2000 in number. In his "Notes on the Campaign" Dr. Little made some interesting observations on his own experiences and those of the great Esmarch with whom he worked. He was buried at Bletchingley.

GEORGE THOM, M.R.C.S. ENG., L.S.A., J.P.,

CONSULTING SURGEON TO THE ROYAL ALBERT HOSPITAL DEVONPORT.

Mr. George Thom died at his residence, 1, Clarendon-terrace, Devonport, on Oct. 8th, in his sixty-sixth year. He received his medical education at King's College Hospital, London, and took the M.R.C.S. and L.S.A. qualifications in 1870. He was shortly afterwards appointed resident medical officer at the Royal Albert Hospital, Devonport. He resigned this post after six years' service, and commenced practice at Devonport. He was for many years on the honorary staff of the Royal Albert Hospital, and at the time of his death was consulting surgeon to the institution. Mr. Thom had a large practice in the "Three Towns," where he was most highly respected. He was one of the oldest borough magistrates for Devonport, and attended to his magisterial duties as recently as Oct. 4th. He had been in failing health for some time, but had continued his professional work up to a few days before his death. He will be much missed in Plymouth, Devonport, and Stonehouse, and great sympathy is felt there for his widow, daughter, and three sons, one of whom is a member of the medical profession.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Julius von Michel, professor of ophthalmology in the University of Berlin, from cardiac disease, at the age of 68. He had been somewhat unwell for a good while, but, notwithstanding reports to the contrary, proposed to continue to carry on the active duties of his chair. His student days were passed in Würzburg and Zürich. Before the Franco-German war, in which he took part, he was assistant in the Zürich ophthalmic clinic under Professor Horner. Subsequently he went to Leipsic, where he worked under Coccius, Ludwig, and Schwalbe, and afterwards became professor of ophthalmology successively in Erlangen, Würzburg, and Berlin, where he followed Professor Schweigger. He published a number of papers, besides a large text-book on the eye, and edited a well-known ophthalmological journal.—Dr. Starling Loving, professor of medicine in the Starling-Ohio Medical College.—Dr. Meyer-Steinegg, *privat-docent* in the University of Jena.—Dr. Mitscherlich, sanitary councillor of Charlottenburg.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS OF LONDON AND SURGEONS OF ENGLAND.—At the Second Professional Examination in Anatomy and Physiology held on Sept. 28th and 29th, and Oct. 2nd and 3rd, 73 candidates presented themselves, of whom 40 were approved and 33 were rejected. The following is a list of the successful candidates:—

Charles Layton Balkwill, Birmingham University; Otto Barkau, B.A. Oxon., Oxford and Freiburg Universities; Dhirendranath Basu, Calcutta and Middlesex Hospital; William McHuchison Binning, University College; Cecil Bluett, London Hospital; Geoffrey Alwyn Gershom Bonser, B.A. Cantab., Cambridge University and St. Thomas's Hospital; Frederick Wyndham Chamberlain, Middlesex Hospital; Edwin Lionel Christoffelsz, Ceylon Medical College and London Hospital; John Edgar Davies, Guy's Hospital; William Sadgun Desai, L.M.S. Bombay, Bombay University; Alma Percy Ford, London Hospital; Frank Brayshaw Gilhespy, University College; Evan Williams Griffith, University College, Cardiff; Frank Arnold Gunesekera, L.M.S. Ceylon, Ceylon Medical College; Donald Herbert Hargrave, London Hospital; Joseph Francis Holmes, Calcutta and Charing Cross Hospital; Oswald Ryle Horwood, M.A. Cantab., Cambridge University and London Hospital; Arthur Maddock Jones, Charing Cross Hospital; James Phillips Jones, Guy's Hospital; Walter Hewitt Jones, St. Mary's Hospital; Joseph Georges L'Etang, St. Bartholomew's Hospital; Desmond Manus MacManus, Guy's Hospital; Samuel Mallinick, Halle University and London Hospital; George Frederick Meinertzhagen, St. Bartholomew's Hospital; Arthur Rennie Muir, Cardiff and University College; Henry Felix Mullan, London Hospital; Kenneth Montague Nelson, St. Mary's Hospital; Walter Justice Paramore, University College; Leonard Robert Pickett, Guy's Hospital; John Wootton Rammell, London Hospital; Cecil Arthur Robinson, St. Mary's Hospital; Gordon Wilfred Ritchie Rudkin, University College; Henry Christmas Samuel, Ceylon Medical College and Middlesex Hospital; Mohammed Sharaf, Cairo and St. Mary's Hospital; Cuthbert Shaw-Crisp, St. Mary's Hospital; Alan Edward Staffurth, Cambridge University and St. Thomas's Hospital; George Sydney Stathers, St. Bartholomew's Hospital; Herman Crowther Viehoff, Liverpool University; Philip Pennefather Warren, London Hospital; and Ernest Jenner Wright, St. Mary's Hospital.

At the quarterly examination in Practical Pharmacy held on Oct. 5th the following candidates were approved:—

Malcolm Barker, L.D.S. Eng., Charing Cross Hospital; William Fletcher Barrett, Birkbeck College and private study; Alexander William Charles Bennett, St. Thomas's Hospital; Ellis Campbell Bowden, London Hospital; Robert Graham Brown, London Hospital; Richard Challoner Cobbe Clay, Westminster Hospital and private study; Charles Frederick Constant, Guy's Hospital; George Malcolm Coope, Manchester University; Edward Dance Fountain, St. Mary's Hospital; Henry Charles Coutts Hackney, King's College Hospital; Arthur Edward Huxtable, Charing Cross Hospital; Henry Barry Hyde, St. Thomas's Hospital; Thomas Hitchings James, London Hospital and private study; Kenneth John Taylor Keer, Guy's Hospital; William Morgan Langdon, Guy's Hospital; James Lafayette Lauder, Guy's Hospital; Gerald Laurence, Middlesex Hospital; Edmund Thomas Howard Lea, Westminster Hospital and private study; Frederick Martin Lipscomb, King's College Hospital; Eustace Fernando Llarena, Guy's Hospital; Bryen McDermott, Guy's Hospital; Maurice Mackenzie, London Hospital; William Frank Morgan, London Hospital; William Henry Parr, London Hospital; Claud John Burgoyne Pasley, Westminster Hospital and private study; James Remers, Manchester University; Herbert Thomas Retallack-Moloney, London Hospital; Denys Revell Reynolds, St. Bartholomew's Hospital; Henry Charles Rigg, Charing Cross Hospital; Harold Robinson, Manchester University; Maitland Scott, Guy's Hospital; Ambrose Huntington Warde, St. Thomas's Hospital; and Nathan Judah Wigram, Sheffield University.

UNIVERSITY OF GLASGOW.—The following have passed the First Professional Examination for the degrees of M.B. and Ch.B. in the subjects indicated (B., Botany; Z., Zoology; P., Physics; C., Chemistry):—

Robert Aitken (Airdrie) (B., P.), William Dick Allan (B., P.), John Alston (B., P.), William Baird (B., P.), William Barras (B., P.), Monindra Nath Bhattacharjie (B., P.), Thomas Blackwood (B., P.), Robert Mitchell Stewart Boyd (Z., C.), William Ernest Boyd (Z.), John Bradford (Z., C.), John Buchanan (P., C.), Donald Ronald Colin Cameron (B., Z., P., C.), Dugald Stewart Campbell (B., P.), John Ferguson Campbell (B., P.), William Campbell (B., P.),

Thomas Watson Carstairs (Z., P.), Joseph Chalmers (B., P.), Allan La Barte Clark (Z., C.), Douglas Hamilton Coats (B., P.), John Connal (B., C.), William Kerr Connell (B., P.), Alexander Findlay Cook (B., P.), Archibald Shankland Cook (B., P.), Walter Gow Cook (B.), Robert Stobo Crawford (B., Z., P., C.), Henry Paterson Crow (Z., C.), John Freeland Cunningham, M.A. (B., Z., C.), William Cunningham (B., P.), John Williamson Dalglish (B., P.), Ronald Stevenson Dickie (B., Z., P.), John Dunbar (B., P.), Ernest M'Murchie Dunlop (B., Z., P., C.), James Jackson Finlay (Z., C.), Thomas Finlay (B., Z., P.), Thomas Fleming (B., P.), George John Fraser (C.), Matthew Mair Frew (B., P.), Walter Weir Galbraith (C.), Leonard Woodburn Gemmell (C.), John Albert Frank Gibson (Z.), Robert Stuart Gibson (Z., C.), Norman William Gilchrist (P.), Robert Kinnear Hay Gillespie (B., Z., P.), Colin Campbell Blair Gilmour, M.A. (B.), John Gray Gilmour (B., Z., P.), John Glaister (B., P.), Peter Fife Auchinachie Grant (B., P.), David Heard (B., P.), Arnot Campbell Hepburn (B., Z., P.), William Allan Higgins, M.A. (B., P.), Arthur Robert Hill (B., P.), Oswald Johnston (B., P.), John Crawford Knox (B., C.), Robert Kyle (Z.), Robert Milne Lang (B., P.), Hugh Brown Lawrie (C.), James Alexander Leiper (B., Z., P., C.), Peter Young Lyle (B., Z., P.), Hugh Lawrence M'Cormick (B., Z., P.), Patrick M'Diarmid (B., P.), Robert William MacDonald (P.), James Wallace Macfarlane (B., P.), John Mandeville Macfie (B., P.), Arthur Daniel Clark M'Gowan (P.), Archibald M'Innes (B., Z., P., C.), John MacInnes (B., Z., C.), Alexander Fraser M'Intosh (B., P.), James MacAlister Mackintosh (B., P.), Keith Stuart Macky (B., P.), George Maclean (P., C.), Peter Donald MacLean, M.A. (P.), Donald Macphail Macmillan (Z., P.), Frederick Robertson Martin (B., P.), John Campbell M'Intyre Matheson (B., P.), Alexander M'Callum Millar (B.), William Duff Miller (B., P.), John Desmond Milligan (B., P.), Peter Orr Moffat (C.), Frederick William Morrison (B., Z., P., C.), William Watson Morrison (B., P.), Alexander Morton (B., P.), John Hughes Murray (B., Z., P.), Thomas Fraser Noble (P.), Michael O'Callaghan (B., Z.), James Alphonsus O'Connor (B., P., C.), Robert Lamont Ormsby (B., P.), Arthur William Panton (B., P.), John Roberts Pate (Z.), James Alexander Paterson (B., Z.), Thomas Smith Paterson (B., Z., P., C.), James Herbert Paul, M.A. (B., P.), William James Poole (B., P.), William Burns Primrose (B., C.), Hugh Quigley (P.), Robert Scott Reid (B., P.), James Gordon Rennie (P.), John King Rennie (B., P.), James Richardson (B., P.), Kenneth M'Alpin Ross (B., Z., P.), Andrew Stenhouse (B., Z., P.), Douglas Stuart Stevenson (B., Z., P.), Pat Adam Stewart (B.), William Mitchell Stewart (B., P.), Archibald Sutherland Strachan (B., C.), John Brunton Sweet (B., Z.), Clement Bennet Templeton (B., P.), Robert Taylor Todd (B., P.), John Lawrence Torley (B., Z., P.), Adrian Johannes van der Spuy (B., P.), George Turnbull Walker (B., P.), Robert Richmond Waters (B., P.), John Dalglish Watson (B., P.), William James Cunningham Watt (B., P.), Robert Smellie Weir (B., P.), Thomas M'Skimming Wilson (B.), and John Thomas Wylie (B., P.)

Women.—Christina Blair Buchanan (B., P.), Maud Christine Cairney (B., P.), Ann Kelly Cormack (B., Z., P., C.), Jane Beattie Davidson (B., Z., P.), Jessie Crawford Gilchrist (B., P.), Janet Fraser Henderson (Z., P.), Helen Isobel Winifred Kerr (B., Z., P., C.), May Constance Broughton Leigh (B.), Dorothy M'Cubbin (B., P.), Margaret Jane Maclachlan (B., P.), Effie Cowan M'Vie (B., C.), Elizabeth Stewart Martin (B., P.), Mary Anderson Noble (B., P.), Mary Helen Routledge (B., P.), Mary Scott (B., Z.), Ishbel Mary Sinclair (Z.), Jane Stalker (B., P.), Margaret Ann Hendry Stewart (B., Z., P.), Isabel Stirling Thomson (B., P., C.), Marion Baillie Darling Wilson (B., P.), and Isabella Henrietta Younger (P.).

The following passed with distinction in the subjects indicated:—

Botany, Zoology, Physics, and Chemistry.—Ernest M'Murchie Dunlop.

Botany and Physics.—John Mandeville Macfie, Jane Stalker, and John Thomas Wylie.

Botany.—Donald Ronald Colin Cameron and John Crawford Knox.

Zoology.—Henry Paterson Crow.

Physics.—John Alston, Thomas Blackwood, Christina Blair Buchanan, William Cunningham, John Dunbar, Dorothy M'Cubbin, Frederick William Morrison, Robert Smellie Weir, and Marion Baillie Darling Wilson.

Chemistry.—Effie Cowan M'Vie, William Burns Primrose, and Archibald Sutherland Strachan.

The following have passed the Second Professional Examination for the degrees of M.B. and Ch.B. in the subjects indicated (A., Anatomy, P., Physiology, M., Materia Medica and Therapeutics):—

Douglas Kinchin Adams, M.A. (M.), Alexander Baird (M.), Henry Stanley Banks, M.A. (M.), Archibald M'Allister Blackwood (A., P.), Abraham Blashky (A., P.), John Smith Knox Boyd (M.), James Law Brownlie (A.), Samuel Bryson (P.), Alexander Grahame Buchanan (P.), Edmund Tytler Burke (A.), John Joseph Burke (A.), John Cameron (A.), William Leonard Cassells (M.), Benjamin Cohen (M.), George Gibson Cooper (M.), Thomas Muir Crawford (A., P., M.), Lawrence Crombie (P.), William Cullen (M.), Gabriel Daniel de Kock (A., P.), Alexander Dick (M.), John Nairn Dobbie (A.), Joseph Dunbar (A., M.), Walter Elliot Elliot, B.Sc. (A., M.), William Campbell Fleischmann (P., M.), James Bryan Fotheringham (P.), William Fraser (P., M.), Ian Grant (P.), John Galloway Hendry (A., P., M.), Thomas Cameron Houston (M.), William Yuill Jamieson (A. M.), William Joseph Brown Lavery (A.), Alexander Lindsay (A., P.), James Walter M'Donald (P. M.), John M'Ghie (A., M.), James Graeme M'Kinna (P.), Kenneth Norman MacLean (M.), Neil MacLeod (A., P.), Robert Martin M'Minn (M.), Ewen Stewart Macphee (A., M.), William Strelley Martin, M.A. (P., M.), John Park Mathie (A.), Thomas Spence Meighan (M.), Archibald Underwood Millar, M.A. (A., P., M.), Thomas Augustine O'Brien (A., P.), James Leslie Ruthven Philip (A., P., M.), Adam Rankine (M.), David Reid Eccles Roberts (M.), Stewart Dewar Robertson (M.), Neil Islay Sinclair (A.), William Robertson Snodgrass, M.A. (A., M.), John Fraser Steven, M.A. (P.), Henry Stewart, M.A. (A.), Ronald Stewart (M.), William Ballantine Stewart, (P., M.), Henry Currie Watson (M.), James Whiteside (A., P.), Alexander Sweet Wilson (A., P.), Andrew Morton Young (M.), and John Miller Young (M.).

Women.—Cecilia Small Turnbull Anderson (M.), Grace Gillies Turnbull Anderson (A., P.), Margaret Jarvey Brown (A., P.), Ethel Crawford, (A., P., M.), Lillias Beverley Hardie (M.), Mary Pringle Hislop (M.), Annie Rankine M'Kail (A., P., M.), Sarah Anderson Jamieson Rankine (M.), Margaret Walker (P.), and Josephine Adelaide Woods (M.).

Mr. John Smith Knox Boyd passed with distinction in the subject of Materia Medica and Therapeutics.

The following have passed the Third Professional Examination for the degrees of M.B. and Ch.B. in the subjects indicated (P., Pathology; M., Medical Jurisprudence and Public Health):—

John Campbell Hill Allan (M.), James Angus (P., M.), Richard Archibald Barlow, B.Sc. (P., M.), Samuel Blumenfeld (M.), Vynne Borland (P., M.), James Wilson Burton (P., M.), Norman Cameron (M.), George Wilson Clark (P., M.), Robert Craig, M.A. (M.), George Dalziel (P., M.), James Henry Dible (M.), Philip Figdor (M.), Adolph Robert Hanns Geyer (P.), Leopold Glushak (M.), Cecil William Fletcher Greenhill (P., M.), James M'Farlane Grier, M.A. (P., M.), John Ferguson Hutton, M.A. (P., M.), Thomas Pollock Inglis (M.), Andries Johannes Joubert (M.), Charles Joseph Hamilton Kirk (P.), Robert Aim Lennie (P.), John Aloysius M'Connochie (M.), John Henry Magoveny (M.), William Montgomery (M.), Kenneth Duncan Murchison (P.), Arthur Alexander Murison (M.), Andrew Neilson, (M.), Andrew Peden (P.), James Purdie (M.), James Francis Quigley (Lambhill) (P., M.), David William Reid (M.), John Ritchie Richmond Ritchie (M.), Alfred Leopold Robertson (M.), Edwin Robertson (P., M.), James Gordon M'Gregor Robertson (P., M.), James Inglis Robertson (M.), Archibald Watson Russell (M.), John Finlayson M'Gill Sloan (P.), Hendrik Cornelius van der Wat Smit (M.), James Anstruther Smith (P.), John Kenneth Smith (P., M.), Alexander Robert Bogue Soga (P., M.), John Alexander Stewart (M.), William Patrick Andrews Stewart (P., M.), William Rowland Taylor (P., M.), Ernest Graham Young Thom, M.A. (P., M.), Edward Napier Thomson (M.), Angus Walker (M.), Thomas Walmsley (M.), Matthew White, M.A. (P., M.), Frederick John Whitelaw (P., M.), and William Brockie Wilson (M.).

Women.—Jane Kerry M'Elroy Hunter (P.), Mary Anne Kirk (P., M.), and Janet Morris Walker (M.).

Mr. William Brockie Wilson and Miss Mary Anne Kirk passed with distinction in the subject of Medical Jurisprudence and Public Health.

The following have satisfied the examiners in the Fourth (Final) Professional Examination for the degrees of M.B. and Ch.B.:—

Mark James Aitken, Alexander John Archibald, Thomas Stewart Barrie, William Egon Halman Beard, James Elliot Black, John Bower, David Sands Brough, Angus Dugald Buchanan, William Murdoch Buchanan, Charles Cameron, M.A., John Campbell, George Cochrane, M.A., James Alphonsus Joseph Conway, Robert Corbett-Corbett, James Findlay, M.A., Leander Lowrie Fyfe, William Gordon Goudie, John Radcliffe Grice, M.A., Charles Hope Haddow, James Stewart Hall, Daniel Christopher Hayes, John Richmond Herbertson, Andrew Gray Holms, Isabel Inglis, James Johnstone, Alexander Kirkhope, John M'Callum Lang, Norman M'Farlane, Barbara Macgregor, Murdo Mackinnon, William Wyllie MacNaught, Katherine Stewart Macphail, Farquhar Matheson, James Matheson, John Mitchell, Andrew Muir, Ellen Brown Orr, Hugh Paterson, James Eric Paterson, Henry Charles Deans Rankin, Hugh Young Riddell, William Logan Scott, Christina Hamilton Shearer, Alexander Hunter Sinclair, James Smith, Isabel Jane Stark, James Alexander Hamilton Telfer, William Tudhope, James Lachlan Ure, Gordon Alexander Valentine, Hugh Ferguson Watson, L.R.C.P., Archibald Wilson, Douglas Wilson, and Walter Percy Yates.

The following passed with distinction in the subjects indicated:—

In (*a*) Surgery and Clinical Surgery, (*b*) Practice of Medicine and Clinical Medicine, (*c*) Midwifery: Charles Cameron, M.A. In (*a*) Surgery and Clinical Surgery, (*b*) Midwifery: David Sands Brough. In (*a*) Practice of Medicine and Clinical Medicine, (*b*) Midwifery: Farquhar Matheson and James Eric Paterson. In Midwifery: Mark James Aitken, William Egon Halman Beard, John Bower, Robert Corbett Corbett, James Stewart Hall, Katherine Stewart Macphail, Ellen Brown Orr, Alexander Rae, and Henry Charles Deans Rankin.

FOREIGN UNIVERSITY INTELLIGENCE.—

Berlin: Dr. Carl Keller, *Oberarzt* of the Gynæcological Department of the Charlottenburg Hospital, has been granted the title of Professor.—*Brussels:* Dr. E. H. Starling, Professor of Physiology in the University of London, has been elected Foreign Corresponding Member of the Belgian Royal Academy of Medicine.—*Catania:* Dr. F. Zangri has been recognised as *privat-docent* of Medical Pathology.—*Christiania* (centenary celebration): In addition to the names already announced the honorary doctor's degree has been conferred upon Sir T. Barlow (London), Sir W. Osler (Oxford), Dr. Bacceli (Rome), Dr. Bang, Dr. Gram, and Dr. Salomonson (Copenhagen), Dr. Golgi (Paris), Dr. Hammarsten (Upsala), Dr. Tigerstedt (Helsingfors), Dr. Kocher (Berne), Dr. Pawlow (St. Petersburg), Dr. Ramón y Cajal (Madrid), and Dr. Weichselbaum (Vienna).—*Freiburg:* Dr. Marx has been appointed temporarily in place of Dr. Killian to act as Professor of Laryngology. Dr. Hermann Determann, *privat-docent* of Medicine, and Dr. Adolf Oberst, *privat-docent* of

Surgery, have been promoted to Extraordinary Professorships.—*Genoa:* Dr. G. Moro has been recognised as *privat-docent* of Surgery and Dr. R. Carreras as *privat-docent* of Odontology.—*Gratz:* Dr. A. Wittek, *privat-docent* of Orthopædic Surgery, has been granted the title of Extraordinary Professor.—*Innsbruck:* Dr. Rudolf Schmidt of Vienna has been appointed to the chair of Medicine and Director of the Medical Clinic in succession to Dr. Ortner.—*Kiel:* Dr. Ludwig Bitter has been recognised as *privat-docent* of Hygiene.—*Lausanne:* Dr. Beitzke of Berlin has been offered and accepted the chair of Pathological Anatomy, which has been vacant since the death of Dr. Stilling.—*Modena:* Dr. I. Bruchi has been recognised as *privat-docent* of Surgery and Operative Medicine.—*Naples:* Dr. G. Ferulano has been recognised as *privat-docent* of Surgical Diagnosis.—*Padua:* Dr. G. Monzardo has been recognised as *privat-docent* of Operative Medicine.—*Parma:* Dr. E. Bertarelli has been promoted to the Ordinary Professorship of Hygiene.—*Pisa:* Dr. G. Gentili, Dr. S. Luschi, and Dr. F. Ravenna have been recognised as *privat-docenten* of Internal Pathology.—*Prague (German University):* Dr. E. J. Kisch, Professor of Balneology, has resigned.—*Rome:* Dr. Pietro Frascella and Dr. Filippo Lofaro have been recognised as *privat-docenten* of External Pathology.—*St. Louis (Washington University):* Dr. Ernest Sachs has been appointed Adjunct Professor of Surgery.—*Vienna:* Dr. Hugo Leischner has been recognised as *privat-docent* of Surgery.

SALARIES OF DISTRICT MEDICAL OFFICERS.—The Camberwell board of guardians have accepted the resignation of Mr. W. E. Morgan as district medical officer for the Camberwell district. The board met in committee, when the guardians came to the decision that in view of the number of cases they did not consider the remuneration at present paid of £100 per annum adequate for the post of district medical officer, and recommended an increase to £125 per annum, subject to the approval of the Local Government Board. At a meeting of the board on Oct. 5th Mr. S. Sayer proposed that the salary remain at £100. The late medical officer had been satisfied with that sum, and it was strange to offer an increased salary without any reason being given. It was for Mr. Morgan to say if the salary was too small, but he had never applied for an increase. It was the same amount they gave all their district medical officers when they commenced. There was something less than an hour's work in the morning, with only half-a-dozen cases to visit. It was an easily earned £2 a week. The guardians were increasing salaries all round, and he protested against it. Mr. C. E. Renouf, in seconding, said they treated their district medical officer very well when they gave him £2 a week. Only two guardians voted for the reduced salary, the proposal to grant £125 being carried.

ST. MARY'S HOSPITAL.—The annual dinner of the school was held at Princes Restaurant on Oct. 3rd, Mr. A. T. Norton, Master of the Apothecaries' Company, being in the chair. There were 152 present. After the loyal toasts had been honoured, the chairman rose to propose "St. Mary's Hospital and Medical School." He gave a vivid description of taking a country walk in his youth in the district now known as Paddington. There was a glorious wood in those days where the Great Western terminus now stands, and a creek meandered along the present Westbourne Grove. When he entered the hospital as a student there was no necessity for a preliminary examination, and two and a half years were considered sufficient to gain all the knowledge required to obtain the M.R.C.S. or L.S.A. The development of surgery he then traced from the time when one theatre and one afternoon a week were ample for a hospital of the size of St. Mary's, to the present day when several theatres in use every day, and sometimes all day, alone suffice for the needs of the hospital. Having described the conditions of 50 years ago he speculated on the possibilities of 50 years hence. Perhaps operations for appendicitis or perityphlitis would be unknown. The scope of serums and vaccines had still to be determined. He uttered a grave warning about the Insurance Bill. "Unless," he said, "it is altered to suit the medical man there will be a further falling off in the recruits of the profession." Mr. W. Austin Leigh (chairman of the hospital board) responded. He laid stress on the work of the hospital during the summer months. The three largest hospitals in the neighbourhood—Middlesex, St. George's, and Paddington Green—all being closed for considerable periods, the work was excessive, "and," he added, "we hope we will never again have to do the work of four hospitals during the hottest part of the year." Sir John Broadbent, also responding, pointed out the success of the hospital in gaining for the seventh year in succession one of the coveted gold medals of the London University, and also the gaining of the Middlemore prize awarded by the British Medical Association to Mr. C. W. G. Bryan. He drew attention to the falling off generally in the entrance of medical students. In spite of this falling off in numbers, in spite of provincial competition, and in spite of the Insurance Bill of Mr. Lloyd George, St. Mary's had already a considerably larger entry this year than last. Dr. J. O. Symes proposed "The Chairman" in an eloquent and sincere speech. "Mr. Norton's opinion was," he said, "pre-eminently a sound one, founded on wide experience, sound judgment, and keen powers of observation. Behind it all was a simple and great-hearted man." The chairman made an appreciative and sympathetic response.

PHLEBOTOMUS FEVER IN ITALY.—For many years during the months of June, July, and August in various provinces of Italy, especially in the north, a special form of epidemic fever has been observed. The characteristics of the epidemic are the suddenness of the onset and the rapidity of its diffusion. The disease is never fatal. The fever lasts for about 60 hours and leaves the patient very prostrated in mind and body for about a fortnight. The usual clinical picture is the following: an individual in good health is overcome by malaise, followed by frontal headache, pain in the limbs and in the loins; the fever reaches its highest point in some 12 hours, and then descends slowly without remissions and ceases in about 60 hours. The patients usually preserve appetite, but the tongue is white and the bowels are confined; in a few cases the tonsils or pharynx are reddened; occasionally there is epistaxis; the spleen is not enlarged; there is no albuminuria. A symptom present in almost all cases is a very marked and persistent redness of the face, such as one does not meet with in other diseases. Relapses are common. The infection is due to a virus which will pass through a Berkefeld filter. This virus is transmitted from man to man by the phlebotomus pappatasii, an insect that lives on human blood and is found in houses, especially in the bedrooms. The virus can remain active in these insects for ten days. To contract the disease numerous bites by these insects are necessary. The incubation period is from four to five days. (Annali di Igiene Sperimentale, Vol. XXI., Fasc. II., reviewed in Rivista Critica di Clinica Medica, XII., 38).

DONATIONS AND BEQUESTS.—The late Mr. Gibson, a former mayor of Newcastle, has, among other large bequests, left £2000 to the Newcastle Royal Infirmary.—By the will of the late Mrs. Charlotte Maud Barnato the testatrix bequeathed £1000 to the London Hospital (for the women's ward), and £500 each to the Cancer Hospital (for the women's ward), St. Mary's Hospital, Paddington (for the women's ward), the Samaritan Women's Hospital, Marylebone-road, the Children's Hospital, Paddington-green, the Middlesex Hospital (for the children's ward), the Hospital for Sick Children, Great Ormond-street, the Jews' Hospital and Orphan Asylum, and the Hospital for Women, Soho-square.—The late Mr. Albert R. T. Momber has by will bequeathed the following approximate amounts to the various institutions—viz., £2520 to the Governors of University College, London, upon trust to apply the income in maintaining a scholarship or scholarships for science; £2160 to University College Hospital; £1440 each to the London Hospital and the Queen-square Hospital, W.C.; £1080 to St. George's Hospital; £3600 equally between the Lister Institute, Chelsea, the Marine Biological Research Association, Plymouth, the Cancer Research Institution, and the Tuberculosis Research Institution; £720 each to the Royal Sea-Bathing Infirmary, Margate, the Hospital for Consumptives, Ventnor, the Royal Asylum for the Blind, Chelsea, the Home for Crippled Children, Chelsea, and the Frimley Sanatorium in connexion with the Brompton Hospital; and £180 each to Dr. Barnardo's Homes, the Malvern Rural Hospital, the Royal Free Hospital, Gray's Inn-road, the Royal Society for the

Protection of Birds, the Royal Society for the Prevention of Cruelty to Animals, and the Naples Society for the Protection of Animals.—Under the will of the late Miss Ellen Baker the Worthing Infirmary will receive £500.

SOCIETY OF TROPICAL MEDICINE AND HYGIENE.—A meeting of this society will be held at 11, Chandos-street, Cavendish-square, W., on Friday, Oct. 20th, at 8.30 P.M., when Dr. A. G. Bagshawe will read a paper on Recent Additions to our Knowledge of Sleeping Sickness.

THE PROPOSED ISOLATION HOSPITAL IN TORONTO.—The Toronto Local Board of Health has recommended recently the purchase for $30,000 (£6000) of a site overlooking the ravine and comprising 10 acres for the erection of an isolation hospital.

Dr. Charles F. Harford has been transferred from the post of physician to the Church Missionary Society to that of the secretary of the medical committee, with supervision of the medical missions of the society, comprising 48 stations, in which 91 medical men and women and 59 nurses are working. The statistics for the last completed year were: beds, 3388; in-patients, 31,871; out-patients, 1,136,518. Dr. Harford still continues as Principal of Livingstone College, as he did when holding his former post.

NEWCASTLE-ON-TYNE CLINICAL SOCIETY.—The first ordinary meeting of this society was held on Oct. 5th. The retiring President, Dr. E. N. Burnett, occupied the chair, and there were present 56 members. After some business proceedings, including the reports of the honorary secretaries and treasurer, Dr. Burnett vacated the chair and invited the President-elect, Dr. Andrew Smith, to occupy it. Dr. Smith then delivered the presidential address, his subject being "The Country Doctor," which was received with great enthusiasm by the large meeting.

THE VENTILATION OF SMALL DWELLINGS.—Lord Mount Edgcumbe, who resides at Mount Edgcumbe, near Plymouth, has, through the local press, made an offer to give £50 for the best paper on the subject of ventilation for small dwellings. Lord Mount Edgcumbe "states that if some persons with practical knowledge of the subject, such as medical men, clergymen, architects, &c., would care to express an interest in the matter, a meeting might perhaps be arranged and a committee appointed to propose a mode of competition." Lord Mount Edgcumbe considers "that the subject of ventilation of small dwellings is worth more consideration than it has hitherto received on the part of those who are interested in public health."

LITERARY INTELLIGENCE.—Vol. V. of the new edition of "Allen's Commercial Organic Analysis" is announced for publication by Messrs. J. & A. Churchill. This volume has been rewritten under the editorship of W. A. Davis, B Sc., and S. S. Sadtler, S.B. The subjects and authors are as follows: Tannins, Leather, Dyes, and Colouring Matters, by W. P. Dreaper; Diphenylmethane and Triphenylmethane Colouring Matters, &c., by J. T. Hewitt; Colouring Matters of Natural Origin, by W. M. Gardner; Analysis of Colouring Matters, by W. P. Dreaper and E. Feilmann; Inks, Carbon Papers, Typewriter Ribbons, &c., by P. H. Walker; Colouring Matters in Food, by A. F. Seeker.

MEDICAL OFFICERS OF HEALTH SOCIETY.—Dr. A. G. R. Cameron, President of the Southern Branch of the Society of Medical Officers of Health, in his address at the annual meeting of the branch at Chichester on Oct. 6th, dealt with the subject of the unequal manner in which the Public Health Acts and regulations are enforced in rural and small urban districts. Dr. Cameron quoted instances, and advocated annual Government grants to sanitary authorities as an incentive to the carrying out of sanitary measures, as was already done in the case of public elementary schools. Dr. Cameron strongly recommended that the powers of executive officers should be strengthened, and that adequate administrative facilities should be afforded for the carrying out of their work and the coördination of the duties of medical officers of health and clerks of district councils.

BOOKS, ETC., RECEIVED.

ALLEN, GEORGE, AND CO., LIMITED, Ruskin House, 44 & 45, Rathbone-place, London, W.

Famous Chemists. By E. Roberts, B.Sc. Lond. Price 2*s.* 6*d.*

ARNOLD, EDWARD, 41 & 43, Maddox-street, London, W.

The House-Surgeon's Vade-Mecum. By Russell Howard, M.B., M.S. Lond., F.R.C.S. Eng., Surgeon to Poplar Hospital. Price 7*s.* 6*d.* net.

BAILLIÈRE, TINDALL, AND COX, London.

Rose and Carless's Manual of Surgery. For Students and Practitioners. Eighth edition. Revised by Albert Carless, M.B., M.S. Lond., F.R.C.S., Professor of Surgery in, and Surgeon to, King's College Hospital, London. Price 21*s.* net.

Clinical Immunity and Sero-Diagnosis. By A. Wolff-Eisner, M.D., Berlin. Translated by Ray W. Matson, M.D., Portland, Oregon, U.S.A., Professor of Histology, North Pacific College of Dentistry and Pharmacy. Revised and edited, with a special Introduction, by the Author. Price 7*s.* 6*d.* net.

BOERICKE AND TAFEL, 1011, Arch-street, Philadelphia, Pa., U.S.A.

The Blood and its Third Anatomical Element. By A. Béchamp, Formerly Professor in the Medical Faculty of Montpellier (France). Translated from the French by Montague R. Leverson, M.D., of the Baltimore Medical School and M.A. and Ph.D. of the University of Göttingen. Price, cloth, $1.50.

CASSELL AND COMPANY, LIMITED, London, New York, Toronto, and Melbourne.

A Manual of Physics for Medical Students. By Hugh C. H. Candy, B.A., B.Sc. Lond., F.I.C., Lecturer on Chemistry at the London Hospital Medical College and Arnott Professor of Natural Philosophy in Queen's College, London. Price 6*s.* net.

Hygiene and Public Health. By Sir Arthur Whitelegge, K.C.B., M.D., B.Sc. Lond., F.R.C.P., D.P.H., and Sir George Newman, M.D., D.P.H., F.R.S.E. Twelfth edition, revised throughout. Price 8*s.* 6*d.* net.

Surgical Applied Anatomy. By Sir Frederick Treves, Bart., G.C.V.O., C.B., LL.D., F.R.C.S., Serjeant Surgeon to H.M. the King. Sixth edition, revised by Arthur Keith, M.D., LL.D. Aberd., F.R.C.S. Eng. Fortieth thousand. Price 9*s.*

Diseases of the Skin. An Outline of the Principles and Practice of Dermatology. By Sir Malcolm Morris, K.C.V.O. Fifth edition. Revised by the Author with the Assistance of S. Ernest Dore, M.D. Cantab., M.R.C.P. Price 10*s.* 6*d.*

The Methods of Race-Regeneration. By C. W. Saleeby, M.D., F.R.S.Ed., F.Z.S. (New Tracts for the Times. Promoted by the National Council of Public Morals, Holborn Hall, London, W.C.) Price 6*d.* net.

SCIENTIFIC PRESS, LIMITED, London.

Sanatoria for the People, or the State Campaign Against Consumption. By Charles H. Garland and Thomas D. Lister, M.D. Price 1*s.* net; 1*s.* 2*d.*, post free.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

COHEN, M. W., M.B. Lond., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

D'ERF WHEELER, PERCY, M.D., F.R.C.S. Edin., L.R.C.P. Lond., has been appointed Medical Superintendent of the Deptford Medical Mission.

FELDMAN, W. M., M.B., B.S. Lond., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Consulting Physician to Stepney Jewish Schools.

JOHNSON, ALFRED E., M.B., B.Ch. Vict., F.R.C.S Eng., has been appointed Assistant Surgeon at Middlesex Hospital.

KELLOCK, T. H., M.D., M.C. Cantab., F.R.C.S. Eng., has been appointed Fourth Surgeon at Middlesex Hospital.

LAWRY, RICHARD COGER, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health of Penzance, Cornwall.

LITTLEJOHN, A. R., M.R.C.S., L.R.C.P. Lond., D.H.P., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

MOORE, SYDENHAM F., M.B., B.Ch. Oxon., M.R.C.S., L.R.C.P. Lond., has been appointed House Surgeon at the Warneford, Leamington, and South Warwickshire General Hospital.

MORRISON, Professor J. T. J., M.B. Cantab., F.R.C.S. Eng., has been appointed one of the Medical Referees under the Workmen's Compensation Act, 1906, for County Court Circuit No. 22, to be attached more particularly to Bromsgrove, Redditch, and Droitwich County Courts.

PARSONS, HARRY COMPTON, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health of Great Torrington, Devon.

PYBUS, FREDERICK C., M.S. Durh., F.R.C.S. Eng., has been appointed Assistant Surgeon to the Hospital for Sick Children, Newcastle-on-Tyne.

RATTRAY, P., M.B., M.S. Edin., has been appointed Certifying Surgeon under the Factory and Workshop Act for the Slaithwaite District of the county of Yorks, West Riding.

ROSSITER, H. T., M.R.C.S., L.R.C.P. Lond., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

VAUGHAN, RICHARD GRENVILLE, M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer for the Caldicot District by the Chepstow (Mon.) Board of Guardians.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BATTERSEA DISPENSARY FOR PREVENTION OF TUBERCULOSIS.—Medical Officer. Salary £250 per annum.

BIRMINGHAM EAR AND THROAT HOSPITAL, Edmund-street.—House Surgeon for six months. Salary at rate of £70 per annum, with board, lodging, and washing.

BODMIN, CORNWALL COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £140 per annum, with rooms, rations, laundry, and attendance.

BRISTOL ROYAL INFIRMARY.—Throat, Nose, and Ear House Surgeon. Salary £75 per annum, with board, apartments, and washing.

BURY INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board, residence, and laundry.

CARDIFF INFIRMARY (GENERAL HOSPITAL).—House Surgeon for six months. Salary £30, with residence, board, and laundry.

CARLISLE DISPENSARY.—Resident Medical Officer. Salary £150 per annum, with apartments.

CHESTERFIELD, BOROUGH OF.—Medical Officer of Health. Salary £400 per annum.

CLAYBURY, LONDON COUNTY ASYLUM, Woodford Bridge, Essex.—Junior Assistant Medical Officer, unmarried. Salary at rate of £160 per annum, with board, apartments, and washing.

COVENTRY AND WARWICKSHIRE HOSPITAL, Coventry.—House Physician and Junior House Surgeon. Salary in each case £90 per annum, with rooms, board, washing, and attendance.

CROYDON GENERAL HOSPITAL.—Junior House Surgeon. Salary £75 per annum, with board, laundry, and residence.

DENBIGH, DENBIGHSHIRE INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

DEVONPORT, ROYAL ALBERT HOSPITAL.—Assistant House Surgeon, unmarried, for six months. Salary at rate of £75 per annum, with board, apartments, laundry, &c.

DUDLEY, GUEST HOSPITAL.—Assistant House Surgeon for six months. Salary £75 per annum, with residence, board, and washing.

EAST SUFFOLK COUNTY EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £250 per annum.

EDMONTON UNION INFIRMARY, 77, Bridport-road, Upper Edmonton.—Second Assistant Medical Officer, unmarried. Salary £120 per annum, with residential allowances.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, London, S.E.—House Physician. Salary at rate of £60 per annum, with board, residence, and washing.

EXETER, ROYAL DEVON AND EXETER HOSPITAL.—House Physician and Assistant House Surgeon for six months. Salary of former at rate of £90 per annum, and of latter at rate of £80 per annum.

GLASGOW DISTRICT MENTAL HOSPITAL, Lenzie.—Junior Assistant Medical Officer. Salary £125 per annum, with board, lodging, and washing.

GLOUCESTER COUNTY ASYLUMS.—Assistant Medical Officer, unmarried. Salary £150 per annum, with rooms, rations, laundry, and attendance.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL.—Surgeon to Out-patients.

HASTINGS, EAST SUSSEX HOSPITAL.—Assistant House Surgeon. Salary at rate of £70 per annum, with residence, board, and washing.

HITCHIN, THREE COUNTIES ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £150 per annum, with board, apartments, washing, and attendance.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—House Physician for six months. Salary 30 guineas.

HOSPITAL FOR SICK CHILDREN, Great Ormond-street, London, W.C.—Assistant Casualty Medical Officer, unmarried, for six months. Salary £30, with board, residence, &c.

HUDDERSFIELD ROYAL INFIRMARY.—Junior Assistant House Surgeon. Salary £60 per annum, with board, residence, and washing.

HULL ROYAL INFIRMARY.—Two Assistant House Surgeons. Salary at rate of £60 per annum, with board and lodging.

INVERNESS DISTRICT ASYLUM.—Junior Assistant Physician. Salary £140 per annum, with board, lodging, and laundry.

LEEDS GENERAL INFIRMARY.—Resident Medical Officer. Salary £150 per annum, with board, residence, and washing. Also Resident Obstetric Officer and Two House Physicians for six months, each with board, lodging, and washing. Also Three House Surgeons for twelve months. Also Resident Medical Officer for the Ida and Robert Arthington Hospitals for six months. Salary £30, with board, lodging, and washing.

LEICESTER INFIRMARY.—House Surgeon. Salary at rate of £120 per annum, with board, apartments, and washing. Also Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board, apartments, and washing.

LIVERPOOL EYE AND EAR INFIRMARY, Myrtle-street.—Honorary Assistant Surgeon.

LIVERPOOL HOSPITAL FOR WOMEN, Shaw-street.—House Surgeon.

LIVERPOOL ROYAL INFIRMARY (LOCK DEPARTMENT).—Honorary Surgeon.

MAIDSTONE, WEST KENT GENERAL HOSPITAL.—Assistant House Surgeon, unmarried. Salary £80 per annum, with board and residence.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Parkplace, Cheetham Hill-road.—House Surgeon. Salary £100 per annum, with apartments and board.

MELROSE, ROXBURGH DISTRICT ASYLUM.—Assistant Medical Officer. Salary £160 per annum, with board, lodging, and washing.

METROPOLITAN HOSPITAL, Kingsland road, N.E.—House Physician, House Surgeon, Assistant House Physician, and Assistant House Surgeon for six months. Salary of House Physician and House Surgeon at rate of £60 per annum, with board and washing. Salary of Assistant House Physician and Assistant House Surgeon at rate of £40 per annum, with board and washing. Also Ophthalmic Surgeon.

MIDDLESEX HOSPITAL, W.—Resident Medical Officer, unmarried. Salary £200 per annum, with residence and board.

NEWCASTLE-UPON-TYNE, ROYAL VICTORIA INFIRMARY.—Medical and Surgical Registrars.

NEW HOSPITAL FOR WOMEN.—Female Clinical Assistants.

NOTTINGHAM GENERAL HOSPITAL.—Assistant House Physician. Salary £100 per annum, with board, lodging, and washing.

OLDHAM ROYAL INFIRMARY.—Third House Surgeon for six months. Salary £80 per annum, with board, residence, and laundry.

OLDHAM UNION WORKHOUSE.—Resident Assistant Medical Officer.

POPLAR HOSPITAL FOR ACCIDENTS, Poplar, E.—Senior House Surgeon. Salary at rate of £135 per annum, with board and residence.

PORTSMOUTH, ROYAL PORTSMOUTH HOSPITAL.—House Physician for six months. Salary £75 per annum, with board, &c.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.—Senior House Physician. Salary £75 per annum. Also Senior House Surgeon. Salary £75 per annum. Also Junior House Physician. Salary £50 per annum. Also Junior House Surgeon for six months. Salary £50 per annum, with residence, board, and laundry.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney-road, Bethnal Green, N.E.—House Surgeon for six months. Salary at rate of £80 per annum, with board, residence, and washing.

READING, ROYAL BERKSHIRE HOSPITAL.—House Physician and Second House Surgeon for six months. Salary £80 and £60 per annum respectively, with board, lodging, and washing.

ROUSAY AND EGILSHAY, PARISH OF.—Resident Medical Officer. Salary £71 per annum.

ROYAL EAR HOSPITAL, Soho.—House Surgeon. Salary £40 per annum.

ROYAL NAVAL MEDICAL SERVICE.—Fifteen Commissions.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN.—Honorary Dental Surgeon.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, Cavendish-square, W.—Honorary Surgeon. Also Resident Medical Officer. Salary £150 per annum, with apartments, attendance, coals, and light.

ST. MARY'S HOSPITAL, London, W.—Casualty Physician. Salary £75 per annum.

SHEFFIELD ROYAL INFIRMARY.—Three Junior Resident Medical Officers. Salaries £60 to £65 per annum.

STAFFORD, STAFFORDSHIRE GENERAL INFIRMARY.—House Physician. Salary £82 per annum, with board, residence, and laundry.

STAMFORD, RUTLAND, AND GENERAL INFIRMARY.—House Surgeon, unmarried. Salary £150 per annum, with board, lodging, and washing.

STOCKPORT INFIRMARY.—Junior House Surgeon. Salary £80 per annum, with board, washing, and residence.

SURREY COUNTY COUNCIL.—Assistant Medical Officer for Inspection of School Children. Salary £250 per annum.

TAUNTON AND SOMERSET HOSPITAL.—Resident Assistant House Surgeon for six months. Salary at rate of £80 per annum, with board lodging, and laundry.

TUNBRIDGE WELLS GENERAL HOSPITAL.—House Physician, unmarried. Salary £100 per annum, with board, residence, &c.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Junior House Surgeon. Salary at rate of £80 per annum, with board, residence, and washing. Also Honorary Ophthalmic Surgeon.

WESTON-SUPER-MARE HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board and residence.

WIGAN, ROYAL ALBERT EDWARD INFIRMARY.—Junior House Surgeon. Salary £100 per annum, with rations, washing, and apartments.

THE Chief Inspector of Factories, Home Office, London, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Clonavaddy, in the county of Tyrone; and at Stornoway, in the county of Ross and Cromarty.

Births, Marriages, and Deaths.

BIRTHS.

BARENDT.—On Oct. 4th, at Rodney-street, Liverpool, W., the wife of Frank H. Barendt, M.D. Lond., F.R.C.S. Eng., of a son.

SMALLEY.—On Oct. 5th, at Suva, Fiji Islands, the wife of James Thornton Smalley, M.R.C.S. Eng., L.R.C.P. Lond., of a daughter.

MARRIAGES.

EDMUNDS—STRATFORD.—On Oct. 4th, at Locking Church, Somerset, by the Rev. F. Jackson, M.A., Arthur Edmunds, M.S. Lond., F.R.C.S. Eng., youngest son of the late Joseph Edmunds of London, to Maud Dampier, youngest daughter of the late Martin Stratford of Gloucester.

DEATHS.

BELL.—On Oct. 4th, at Mauricewood, Milton Bridge, Midlothian, Joseph Bell, M.D., F.R.C.S.E., J.P., D.L.

CAMPBELL.—On Oct. 8th, at Palace Gardens-terrace, Kensington, Brigade-Surgeon Alexander Dugald Campbell, late H.M.'s Bengal Medical Service.

GÜNTHER.—On Oct. 6th, at Hampton Wick, Theodore Günther, M.D., aged 77 years.

JACKSON.—On Oct. 7th, at Manchester-square, W., John Hughlings Jackson, M.D., LL.D., D.Sc., Hon. M.D. Bologna, F.R.S., Consulting Physician to the London Hospital and to the Hospital for Epilepsy and Paralysis, aged 76 years.

LITTLE.—On Oct. 4th, Louis Stromever Little, B.A. Lond., F.R.C.S. Eng., M.D. Kiel, of The Roughets, Blechingley, and late of Shanghai, China, in his 71st year.

MILLER.—On Oct. 9th, at Overfield, Bickley, Kent, John Nicholas Miller, M.D. Lond., aged 74 years.

THOM.—George Thom, M.R.C.S., of 1, Clarendon-terrace, Devonport, died suddenly on Oct. 8th.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

QUACKERY IN THE EAST.

AN Indian correspondent has sent us some pages from a price-list issued by a native saddler in Cawnpore. Our correspondent remarks that it is a unique example of the extremes to which uncontrolled quackery can run, and that it shows the type of remedy for which there is a demand in India. Incidentally, he adds, the advertisements have a humorous aspect, and with this we find it hard to disagree. The catalogue of the Medicine Department of Messrs. Mohamed Shafi and Co. has for its text the admirable sentiment, "Health is the Life of the Body," and it fills seven quarto pages. The 80 or so preparations (which are all compounded under the eye of "a very able doctor," Mohamed Sayed) cost from 1 to 5 rupees each, and they are guaranteed to be infallible remedies for almost all the ailments and disabilities to which mankind is heir. An "Oil for the remedy of the errors of youth" is especially recommended, and a Tonic for Weakness which "proves to be a stuff for old people." But there is something for everybody in Mohamed Shafi's price list, and no one need despair who has a rupee or two to invest. Barrenness, baldness, and bugs disappear like the mists of morning, and "foreign humours" can be driven from a "disorderly stomach." A charm for removing snakes and scorpions can be bought for the same price as a specific for small-pox marks which "removes the complexion." With reference to condensed milk at 12 annas the tin, "the public are informed not to be deceived by buying cheap and superious milk." Prophylactic bangles and lockets cost only 2 or 3 rupees each and effectually ward off "cholera weakness, cold, thinness, fever cough, inflammation of the eyes, erysipelas, indigestion, small-pox, impurity of blood, fits, and many other diseases to which children are subject." A plaster which has cured hopeless cases will "heal any old man and obstinate ulcer," while if Tooth Oil is used intelligently the user for the rest of his life "will have a set of unshaken teeth." Jawahar Mohra (or Tone Restorer) "makes a man patent," and Sukha cures "infants who pine away and ultimately die." Although "the inflammation of kidney is fatal," Mohamed Shafi has a remedy which never fails to cure it, and the price of a box is 2 rupees. Should you wish to give up opium, chandoo or spirituous liquors, he has a "life-saving thing which will relieve you radically" for 5 rupees the bottle. All through the catalogue there is an echo of the familiar clap-trap of Western quackery, and, though the reverse might be expected with a bait intended for ignorant and superstitious Orientals, the claims are not more impudent and the suggestions not more frankly obscene. The saddler of Cawnpore has not much to learn from the patent medicine vendors of the United States.

A REMINISCENCE OF MATTHEW WEBB.

To the Editor of THE LANCET.

SIR,—I read with great interest the recent comments and account of the Channel swim, for I knew Matthew Webb well, the first to accomplish that great feat. Matthew Webb before his last fatal effort came to consult me professionally in New York, where at that time I was practising medicine. He was then suffering from deafness produced by his arduous life, commonly known there as "sailor's deafness"; he had perforation of the tympanum. I examined him and had a special opinion also on his case, and as a result advised him on no account to attempt the desperate exploit, telling him that it appeared to be an absolutely impossible thing for any man, under any circumstances, to accomplish such a feat, while failure meant certain death. He was not to be dissuaded, however, but said, "I shall do it, sir, and you will be the first gentleman that I shall see when I return." So I said, "Good-bye, Webb," and he departed.

Matthew Webb before that had been an A.B. seaman before the mast on the R.M.S. *Russia* of the Cunard service, and performed there a wonderful deed. Two men were working on the after part of the saloon deck of the vessel; the ship was going from New York to Liverpool, with close-reefed topsails, at 17 knots an hour, Captain Theodore Cook, commander. At 4 o'clock in the afternoon the cry was raised "Man overboard." Webb's mate had been washed overboard and Webb followed him. The ship was put about, and for an hour and a half the man was not visible from the fore top-mast. Webb was picked up and came on board with the cap of the unfortunate man, the only souvenir of his lost mate. When asked why he did it, he said: "I thought I could save my mate, and I knew that the little captain would not leave me." His after-history is well known, as well as his fatal swim. His body was never found. Knowing Webb well as I did, I had many opportunities of observing his striking personality; he was the model of an English sailor—calm, self-possessed, and brave, and one to whom duty was everything.

I am, Sir, yours faithfully,

Bournemouth, Sept. 30th, 1911. R. A. CALDWELL.

BREATHING EXERCISES FOR CHILDREN.

To the Editor of THE LANCET.

SIR,—Can any of your readers tell me of a small book, about 1*s.* to 2*s.* 6*d.*, suitable for nurses giving instructions in the above?

I am, Sir, yours faithfully,

Oct. 3rd, 1911. BERK.

Anti-humbug.—The two symptoms arise from so many conditions that there can be no specific cure for them. Where they arise from special causes the dermatologist should be consulted; he will be able to advise if any general line of treatment would be useful in addition to, or instead of, local measures, and to indicate where advice should be sought.

"*Rustic*," a medical man, would be glad of advice from his medical brethren as to the treatment of a boy aged 5 years who has recently begun to stammer. His health is excellent, he does no lessons, and leads an out-door life. His father stammered as a boy and his uncle and great-uncle stammer.

J. D. L. writes:—"Can any reader of THE LANCET tell me where I can hire or buy a set of lantern slides suitable for a course of popular lectures on hygiene, especially showing bacteria, &c., and where I can procure a set of suitable diagrams?"

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

A DIARY OF CONGRESSES.

THE following Congresses, Conferences, and Exhibitions are announced for 1911:—

April-October.—Rome Exhibition (United Italy's Jubilee).
,, 29th-Oct. 26th (Turin).—International Exhibition.
May 3rd-Oct. 31st (Glasgow).—Scottish Exhibition.
,, 6th-Oct. 31st (Dresden).—International Hygiene Exhibition (British Section opens June 14th).
May 12th-Oct. 31st (London, Crystal Palace).—Festival of Empire Imperial Exhibition. (Profits to King Edward VII. Hospital Fund.)
May 18th-October 31st (London, Shepherd's Bush).—Coronation Exhibition.
Sept. 19th-Oct. 31st (London).—Earl's Court Exhibition.
,, 23rd-Oct. 21st (London, Olympia).—Electrical Exhibition.
September-November (Antwerp).—International Exhibition of Alimentation, Brewing, Wines, and Liqueurs.
Oct. 12th-18th (Rome).—Fifth Annual Meeting of the Italian Society for the Advancement of Science.
,, 13th-16th (Turin).—Third National Congress of Professional Diseases.
,, 15th (The Hague).—International Opium Conference.
,, 20th-22nd (Roubaix).—Second National Congress of the Mutalité Maternelle.
,, 22nd and 23rd (Lyons).—Twelfth French Congress of Medicine.
,, 25th-27th (New York City).—Annual Conference of Sanitary Officers of the State of New York.
,, 26th-28th (Rome).—Congress of the Italian Society of Laryngology, Otology, and Rhinology.
,, 31st-Nov. 4th (London, Royal Horticultural Hall).—Twenty-second Universal Cookery and Food Exhibition.
October (Paris).—First Congress of the International Medical Association for the Prevention of War.
Nov. 1st (opens) (Turin).—International Exhibition of Hygiene.
,, 10th-25th (Manchester).—Smoke Abatement Exhibition.
,, 14th and 15th (Vienna).—Jubilee of Union of Austrian Dental Surgeons.
,, 21st-23rd (Montreal).—Canadian Public Health Association (First Annual Meeting).
November (Rome).—Fourth International Congress of Physical Education.
,, (London).—Motor Exhibition.
Dec. 4th-9th (Havana, Cuba).—American Public Health Association
,, 19th-23rd (Moscow).—Third Pan-Russian Therapeutical Congress.

In 1912:—

Jan. 20th-27th (Hong-Kong).—Second Biennial Congress of the Far Eastern Association of Tropical Medicine.
April 14th-20th (Rome).—Seventh International Congress on Tuberculosis.
,, (Rome).—Seventh International Congress of Dermatology and Syphilology.
,, (Giessen).—Congress on Study of Families, Inheritance, and Race Hygiene.
Spring (London).—Second Optical Convention.
May 29th-31st (Berlin).—Sixth International Congress of Obstetrics and Gynæcology.
May (London).—International Horticultural Exhibition.
June (London).—Missionary Exhibition.
July 2nd-6th (Doncaster).—Seventy-third Annual Show of the Royal Agricultural Society of England.
,, 25th-28th (Berlin).—Royal Institute of Public Health.

July 30th (York).—Royal Sanitary Institute.
,, (Liverpool).—British Medical Association, Eightieth Annual Meeting.
,, (York).—Twenty-seventh Congress of the Royal Sanitary Institute.
,, (London).—Imperial Congress of Universities.
Aug. 7th–10th (Glasgow University).—Thirty-second Annual Meeting of the British Dental Association.
Sept. 4th (Washington, D.C.) and Sept. 6th–13th (New York).—Eighth International Congress of Applied Chemistry.
,, 23rd–28th (Washington, D.C.).—Fifteenth International Congress on Hygiene and Demography.
September (Prague).—International Congress of Radiology and Medical Electrology.
(Budapest).—Tuberculosis Exhibition.
(Stockholm).—Olympic Games.
(Düsseldorf).—Third International Medical Accident Congress.

In 1913:—
(Easter week) (Berlin).—Fourth International Congress for Physiotherapy.
Aug. 6th–12th.—(London).—Seventeenth International Congress of Medicine.
,, 22nd–28th (Cambridge).—International Mathematical Congress.
(London).—Historical Medical Exhibition. (Organised by Mr. Henry S. Wellcome.)
(Chicago).—Congress of the International Association of Refrigeration.

Medical Diary for the ensuing Week.

SOCIETIES.

ROYAL SOCIETY OF MEDICINE, 15, Cavendish-square, W. (temporary address during building of new house).

TUESDAY.

THERAPEUTICAL AND PHARMACOLOGICAL SECTION (Hon. Secretaries—H. Charles Cameron, H. H. Dale): at 4.30 P.M.

Presidential Address:
Dr. W. E. Dixon, F.R.S.

Paper:
Mr. P. P. Laidlaw: Laburnum Poisoning.

PATHOLOGICAL SECTION (Hon. Secretaries—J. C. G. Ledingham, A. E. Boycott): at 8.30 P.M.

Dr. A. Leitch: Carcinoma of the Uterus in a Rabbit.
Dr. Poynton and Dr. Paine: The Experimental Production of Appendicitis by Intravenous Inoculation of a Diplococcus.
Dr. J. B. Cleland: An Organism Isolated from an Abscess in the Neck of a Bullock.
Dr. P. Cole: The Muci-carmine Staining Method (Demonstration).

THURSDAY.

DERMATOLOGICAL SECTION (Hon. Secretaries—J. H. Sequeira, Wilfred Fox), at 11, Chandos-street, W.: at 5 P.M.

Demonstration of Cases.

FRIDAY.

OTOLOGICAL SECTION (Hon. Secretaries—Sydney Scott, A. Logan Turner), at 11, Chandos-street, W.: at 5 P.M.

Presidential Address:
Dr. W. Milligan.

Cases will be shown by:
Mr. Yearsley, Mr. Lake, Mr. Nixon Biggs, Mr. Arthur Cheatle, Dr. Milligan, Dr. Dundas Grant, Mr. West, and others.

ELECTRO-THERAPEUTICAL SECTION (Hon. Secretaries—G. Harrison Orton, Cecil R. C. Lyster): at 8.30 P.M.

Presidential Address:
Mr. Archibald D. Reid.

MEDICO-LEGAL SOCIETY, 11, Chandos-street, Cavendish-square, W.

TUESDAY.—8.30 P.M., Mr. R. Burrows: Note on a Recent Murder Trial.—Mr. W. Asten: Traumatic Neurasthenia.

ROYAL MICROSCOPICAL SOCIETY, 20, Hanover-square, W.

WEDNESDAY.—8 P.M., Mr. T. W. Butcher: Structural Details of Coscinodiscus Asteromphalus.—Mr. A. Flatters: Abstract of Paper on the Wheat Plant.—Rev. H. Friend: New British Enchytraeids.—Mr. W. Bagshaw: Instantaneous Exposure in Photomicrography.

OPHTHALMOLOGICAL SOCIETY, 11, Chandos-street, Cavendish-square, W.

THURSDAY.—8 P.M. Card Specimen will be shown by Mr. G. Coats. 8.30 P.M.: The President: Introductory Address. Mr. R. Nettleship: A New Case of Hereditary Night-blindness.—Mr. J. S. Manson: A Case of Hereditary Cataract (communicated by Mr. Nettleship).

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East.

WEDNESDAY.—4 P.M., Dr. C. T. Williams: Harveian Oration.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC, 22, Chenies-street, W.C.

MONDAY.—4 P.M., Mr. G. Pernet: Clinique (Skin). 5.15 P.M., Lecture:—Mr. H. B. Robinson: Internal Strangulation.

TUESDAY.—4 P.M., Dr. R. H. Miller: Clinique (Medical). 5.15 P.M., Lecture:—Dr. J. Donelan: Some Points in the Diagnosis and Treatment of Intra-nasal Suppuration.

WEDNESDAY.—4 P.M., Mr. A. H. Tubby: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. F. W. Price: The Early Diagnosis of Pulmonary Tuberculosis.

THURSDAY.—4 P.M., Mr. V. W. Low: Clinique (Surgical). 5.15 P.M., Lecture:—Dr. J. Morrison: Induction of Premature Labour.

FRIDAY.—4 P.M., Mr. E. B. Waggett: Clinique (Ear, Nose, and Throat).

POST-GRADUATE COLLEGE, West London Hospital, Hammersmith-road, W.

MONDAY.—10 A.M., Surgical Registrar: Demonstration of Cases in Wards. Dr. Simson: Diseases of Women. 12 noon, Dr. Bernstein: Pathological Demonstration. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Dr. R. Jones: The Medical Treatment of Insanity.

TUESDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 11.30 A.M., Mr. Etherington-Smith: Demonstration of Minor Operations. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Lecture:—Dr. Berstein: Blood Examination—Morphology.

WEDNESDAY.—10 A.M., Dr. Simson: Gynæcological Demonstration. Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Mr. B. Harman: Diseases of the Eye. 2.30 P.M., Dr. Simson: Diseases of Women. 5 P.M., Dr. Beddard: Practical Medicine. (Lecture I.).

THURSDAY.—10 A.M., Surgical Registrar: Demonstration of Cases in Wards. 12.15 P.M., Lecture:—Dr. G. Stewart: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. 2.30 P.M., Mr. Dunn: Diseases of the Eye. 5 P.M., Lecture:—Dr. Morton: Radio-Therapeutics.

FRIDAY.—10 A.M., Dr. Robinson: Gynæcological Operations. 12.15 P.M., Lecture:—Dr. Pritchard: Practical Medicine. 2 P.M., Medical and Surgical Clinics. X Rays. Operations. Dr. Davis: Diseases of the Throat, Nose, and Ear. 2.30 P.M., Dr. Abraham: Diseases of the Skin. 5 P.M., Clinical Lecture:—Dr. D. Robinson: Gynæcological or Obstetrical Subjects.

SATURDAY.—10 A.M., Medical Registrar: Demonstration of Cases in Wards. Dr. Saunders: Diseases of Children. Dr. Davis: Operations of the Throat, Nose, and Ear. Mr. Bishop Harman: Diseases of the Eye. 2 P.M., Medical and Surgical Clinics. X Rays. Operations.

LONDON SCHOOL OF CLINICAL MEDICINE, Dreadnought Hospital, Greenwich.

MONDAY.—2 P.M., Operations. 2.15 P.M., Mr. Turner: Surgery. 3.15 P.M., Sir Dyce Duckworth: Medicine. 4.30 P.M., Mr. R. Lake: Ear and Throat. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat.

TUESDAY.—2 P.M., Operations. 3.15 P.M., Dr. R. Wells: Medicine. 2.15 P.M., Mr. R. Carling: Surgery. 4.15 P.M., Sir M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

WEDNESDAY.—2 P.M., Operations. 2.15 P.M., Dr. F. Taylor: Medicine. 3.30 P.M., Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 11 A.M., Eye. 3.30 P.M., Special Lecture:—Mr. Cargill: Hints on the Routine Examination of the Eyes.

THURSDAY.—2 P.M., Operations. 2.15 P.M., Dr. G. Rankin: Medicine. 3.15 P.M., Sir W. Bennett: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Ear and Throat. 4.30 P.M., Special Lecture:—Mr. Pendlebury: Cæcostomy.

FRIDAY.—2 P.M., Operations. 2.15 P.M., Sir J. Rose Bradford: Medicine. 3.15 P.M., Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M., Surgical and Medical. 12 noon, Skin.

SATURDAY.—10 A.M., Radiography. 11 A.M., Dr. A. Davies: Pathological Demonstration. 2 P.M., Operations. Out-patient Demonstration:—10 A.M., Surgical and Medical. 11 A.M., Eye.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.

MONDAY.—Clinics:—10 A.M., Surgical Out-patient (Mr. R. Gillespie), 2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Nose, Throat, and Ear (Mr. H. W. Carson).

TUESDAY.—Clinic:—10 A.M., Medical Out-patient (Dr. A. G. Auld). 2.30 P.M., Operations. Clinics:—Surgical (Mr. Howell Evans); Gynæcological (Dr. A. E. Giles). 3.30 P.M., Medical In-patient (Dr. A. J. Whiting).

WEDNESDAY.—Clinics:—2.30 P.M., Medical Out-patient (Dr. T. R. Whipham); Skin (Dr. G. N. Meachen); Eye (Mr. R. P. Brooks). 3 P.M., X Rays (Dr. A. H. Pirie).

THURSDAY.—2.30 P.M., Gynæcological Operations (Dr. A. E. Giles). Clinics:—Medical Out-patient (Dr. A. J. Whiting); Surgical (Mr. Carson). 3 P.M., Medical In-patient (Dr. G. P. Chappel). 4.30 P.M., Lecture: Mr. H. W. Carson: The Late Complications of Peritonitis.

FRIDAY.—2.30 P.M., Operations. Clinics:—Medical Out-patient (Dr. A. G. Auld); Surgical (Mr. E. Gillespie); Eye (Mr. R. P. Brooks). 3 P.M., Medical In-patient (Dr. R. M. Leslie).

CENTRAL LONDON THROAT AND EAR HOSPITAL, Gray's Inn-road, W.C.

TUESDAY.—3.45 P.M., Mr. J. G. French: Pharynx and Naso-pharynx.
FRIDAY.—3.45 P.M., Dr. Abercrombie: Pharynx and Naso-pharynx.

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN, 49, Leicester-square, W.C.

THURSDAY.—6 P.M., Chesterfield Lecture:—Dr. M. Dockrell: Eczema (its Varieties, Symptoms, and Causes).

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square, Bloomsbury, W.C.

TUESDAY.—3.30 P.M., Clinical Lecture:—Dr. H. Tooth.
FRIDAY.—3.30 P.M., Clinical Lecture:—Mr. L. Paton: Oculo-motor Paralysis.

ANCOATS HOSPITAL, Manchester.

THURSDAY.—4.15 P.M., Dr. C. H. Melland: The Treatment of Heart Disease. (Post-Graduate Clinic.)

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M.), St. Mark's (2.30 P.M.), Central London Throat and Ear (Minor 9 A.M., Major 2 P.M.).

TUESDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London, (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 2 P.M., Ophthalmic, 2 P.M.), Tottenham (2.30 P.M.). Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.), Royal National Orthopædic (9.30 A.M. and 4 P.M.).

WEDNESDAY (18th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's 2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30 P.M.), West London (2.30 P.M.), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

THURSDAY (19th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal National Orthopædic (9 A.M. and 3.30 P.M.), Royal Ear (2 P.M.), Children Gt. Ormond-street (9 A.M. and 2 P.M.), Tottenham (Gynæcological, 2.30 P.M.), West London (2.30 P.M), Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

FRIDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Royal National Orthopædic (3.30 P.M.), Soho-square (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.)., Central London Throat and Ear (Minor, 9 A.M., Major, 2 P.M.).

SATURDAY (21st).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 A.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9 A.M. and 9.30 A.M.), West London (2.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic (2 P.M.), Hospital operations are performed daily.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITOR," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention should be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

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(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 11th, 1911.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain fall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Oct. 5	30·02	N.E.	0·02	71	59	48	49	50	Raining
,, 6	30·07	E.	0·25	87	59	49	49	50	Fine
,, 7	29·93	E.	...	60	54	49	49	50	Overcast
,, 8	30·04	W.	0·14	82	59	46	50	52	Cloudy
,, 9	30·23	N.E.	...	93	57	46	48	51	Overcast
,, 10	30·50	N.E.	...	88	57	44	45	46	Fine
,, 11	30·48	E.	...	80	59	46	50	52	Overcast

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